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VOL. L No. 1. NEW YORK, MONDAY, JULY 6, 1896. FOR RATES SEE PAGE 5.

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Index to Large Advertisements

Wants or Notices on page 21.

ANILINES.
Heller & Merz Co. 48
Klipstein & Co., A. 38
Lawrie & Buchanan. 49

BEESWAX.
Bowdlear & Co. W. H. 1

CHEMICALS.
Actien Gesellsch't Fur Chem. In. 46
Albany Chemical Co. 46
Arnold, Peck & Co. —
Battelle & Renwick. 31
Beardsley, Anson L. —
Bellhouse, Dillon & Co. 51
Billings, Clapp & Co. —
Boehringer & Soehne, C. F. 30
Brunner, Mond & Co., L'td. — & 45
Buffalo Chemical Works. 44
Church & Co. 44
Cochrane Chemical Co. 49
Columbia Chemical Works. —
Cooper & Co., Chas. 1
Dundee Chemical Works. 44
Enequist, Eric. 4
Fairfield Chemical Works. 44
Fergusson Bros. 51
Fischer Chem. Imp't'g Co. 47
Fuerst Bros. & Co. 38
Grasselli Chemical Co. 51
Grote-Greenstreet Chem. Co. 46
Hill's Son & Co., Edw. 15, 45 & 47
Hollingsworth & Peterson. 4 & 49
Huber, J. M. 4
Jordan & Sons, Francis. —
Kalbfleisch Co, Franklin H. 46
Kalbfleisch M. Chem. Co. 44
Lee & Co., Jas. 45
Ledoux Chem. Lab. —
Lemm & Weber. 47
Lauder & Meyer. 45
Maas & Waldstein. 49
Merck & Co. 41
Merrimac Chemical Co. 47
Meyer, G. A. & E. 51
Michigan Alkali Co. 47
Michigan Carbon Works. 14
Minner, W. 21
Morgan & Co., Jas. L. 44
N. Y. Coal Tar Chemical Co. 47
N. Y. Quinine & Chem. Works. 30
Nichols Chemical Co. 44
Pannenberg, Julian. 51
Passaic Chemical Co. 47
Penna. Salt Manufacturing Co. 46
Pfizer & Co., Chas. 51
Pim, Forwood & Kellock. 37
Powers & Weightman. 51
Riker, J L & D S. 40
Robbins, A. A. 51
Roessler & Hasslacher Chem. Co. 45
Rosengarten & Sons. 30
Schering & Glatz. 39
Smith & Co., T & H. 1
Solvay Process Co. — & 45
Tartar Chemical Co. 38
Taylor, R. R. 11
United Alkali Co. 34 & 47
Walter, Edward J. 52
Welch, Holme & Clark Co. —
White, T. & S. C. 1
Williamson & Co., D. D. 52
Wing & Evans. — & 45
Zimmer & Co. 30

CHEMISTS ANALYTICAL
Adriance, John S. 4
Hicks, Edwin F. —
Joslyn & Co., O. T. 4
Ledoux Chemical Laboratory. —
McKenna, Chas. F. 4
Spencer, G. L. 4

DRUGS, Etc.
Acme Spirit Co. 33
American Spirits Mfg Co. 32
Apollinaris Co 9
baker & Bro., H. J. 33
Barrett & Co, M. L. 1
Bayless & Co., F. J. 1
Concannon, Edward D. 4
Dickinson Co., The Albert. 31
Dillon & Co. 1
Dodge & Olcott. 32
Evans, Sons & Co. —
German Kali Works. —
Graef, & Co. Chas. 9
Green, D. E. 31
Hopkins & Co., J L. 32
Howe & French. 13
Lambiotte Freres. 33
Lehn & Fink. 1
Manhattan Spirit Co. 1
McKesson & Robbins. 30
Pacific Coast Borax Co. 38
Parke, Davis & Co. 51 & 41
Phair & Co., R. W. 31
Rogers & Pyatt. 31
Schieffelin & Co. 30 & —
Schoelkopf, H. & M. 30
Simes & Son, W.F. 32
Smith, Kline & French Co. 1 & 31
Stallman & Fulton. 31
Starace, A. 31
Thurston & Braidich. 51
Versepuy, Andre & Co. 21
Webb & Son, Jas. A. 1
Webb & Sons, A. L. 1
West & Jenney. 38

DYESTUFFS.
Heller & Merz Co. 48
Howe, Balch & Co. 48
Innis & Co. 49
International Ultramarine Works 42
Klipstein, & Co., A. 38
Lawrie & Buchanan. 49
Lewis, John D. 48
Matheson & Co., L'td W. J. 52
Sharpless Dyewood & Extct Co. 49
Schoelkopf, H. & M. —& 30
Taylor & Barker. 4

ESSENTIAL OILS.
Barrett & Co., M. L. 1
Dodge & Olcott. 32
Todd, A. M. —

GLASS.
Phillip Semmer Glass Co., Ltd. —
Pittsburgh Plate Glass Co. 2
Vanhorne, Griffen & Co. 12

GLYCERINE.
Grasselli Chemical Co. 51
Procter & Gamble Co., The. 51

LAMPBLACK.
Binney & Smith. 13
Cabot G. L. 14
Langville Black & Carbon Co. 14
Mayfield-Bligh Co. 14
Seaver & Co. 14

MACHINERY.
Bartlett, & Co. C. G. —
Caldwell & Son, H. W. —
Link Belt Engineering Co. —
Perrin & Co, Wm R. 19
Sperry & Co., D. R. 19
Stillwell, B. & Smith, V. Co. 19
Thompson & Campbell. —

MACHINERY—Mills.
Lyons, M. E. —
Simpson, J. S. & G. F. 14
Sturtevant Mill Co. —
Thompson & Campbell. —

MACHINERY—Paint.
Carey, S. 15
Bartlett & Co C. O. —
Day & Co., J H. —
Daniels' Sons Co., Wm. 15
Kent & Haly. 15
Ross & Son, Chas. 11
Thompson & Campbell. —
Walton, P. M. 15

MISCELLANEOUS.
Atlantic Trust Co. 34
Coe Mfg. Co., W. H. 12
Colwell Lead Co. 21
Fletcher M'f'g Co,—Wicks. 1
Gibbs Respirator Co. 19
Herrman, Richard. 4
Remmey & Son, K.C., (Stoneware). 4
Thirlkel, J H. C. 19
Weeks, A J. (Stoneware). 46
Wick Dept. Standard Oil Co. 50

NAVAL STORES.
Mc Williams, R. 1
Standard Oil Co. 49

OIL—ANIMAL & FISH.
Davis Oil Co. 18
Delano's Sons, Geo. 18
Hall, Henry J. —
Houston, Wm. 52
Leonard, Geo. H. & Co. 1
Nye, Wm F. —
Richardson & Co, L. —
Robinson & Co. W. A. 18
Young, F. L, & Kimball. 18

OIL—COT'SEED CAKE.
Brode & Co., F W. 52
Globe Refining Co. 18
Hopkins, Dwight & Co. 18
Kentucky Refining Co. 19
Rainey & Co., Jas. 19
Tainter & Co., Chas. B. 52

OIL—LINSEED.
Campbell & Thayer. 18
Clements, A. L. 18
Cleveland Commercial Co. 19
Cleveland Linseed Oil Co. —
Dean Linseed Oil Co. 18
Lewis & Bros. Co, John T. — & —
Mann Bros. & Co. 18
National Lead & Oil Co., of Pa. —&—
National Linseed Oil Co. 8 & 11
Preston & Co. T. J. 52

OIL—OLIVE & VEG.
Leonard, Geo. H. & Co. 1
National Lead Co. 19

OIL—PETROLEUM.
Acme Oil Co. 11, 29 & 51
Atlantic Refining Co. 52
Borlido Moniz & Co. —
Borne, Scrymser & Co. 2
Bush & Denslow M'f'g Co. 35
Crew Levick Co. 29
Devoe Manufacturing Co. 29
Eclipse Lubricating Oil Co., L'td. 3
Galena Oil Works, L'td. 42
Maverick Oil Co. 52
Paragon Refining Co. 23
Pratt Manufacturing Co. 49
Signal Oil Works, L'td. 29
Standard Oil Co. 2, 23, 28, 29, 37, 43, 52
Thompson & Bedford Co., L'td. 2
Tide Water Oil Co. 23
Vacuum Oil Co. 50
Waters, Pierce Oil Co. 3

OIL TANKS & CANS.
Beardsley Manufacturing Co. 20
Pease, F. M 19
Shepard & Co., Sidney. 21
Wilson & Co., F. C. 21

PAINTS, COLORS, Etc.
Abbott & Co. A. H.—Artists Mat. 4
Atlantic Drier Co. 15
Belknap's Son, E. S. 11
Berger & Sons, L'td, Lewis. 13
Buckeye Paint Co. —
Cawley, Clark & Co. 13
Coulston & Co., Jas. W. 11
Dingee, Weinman & Co. 1
Dunbar Wallace. 10
Dunkel & Co, W. I. 12
French & Co., Sam'l H. 11
Gabriel & Schall. 11
Gayle & Semple. 11
Helios Dry Color & Chem. Co. 13
Heller & Merz Co. 48
Huber, J. M. 4
Int'l Ultramarine Works, L td. 48
Johnston's Kalsomine. —
Kellogg Oil, Paint & Varnish Co. 1
Kellogg & McDougall. —
Kendall & Fitch. 10
Long Island Paint & Color W'ks. 14
Lucas & Co., John. 10
Moore & Co., Benj. 13
Moser & Co., Charles. 12
National Lead Co. 13 & —
Palmer-Willock M'f'g Co. 10
Peninsular Lead & Color Wks. 10
Prince M f g Co. The 10
Seaver & Co. 14
Smith & Co., J. Lee. 10
Stevens Paint Specialty Co. 29
Suydam & Co. M. B. 10
Taylor & Barker. 4
Tiemann & Co., D. F. 13
Truslow & Co. 51
Waddell & Co., R J. 11
Wetherill Co., The S. P. 9
Wiley & Co., I. H. 12
Williams & Co., C. K. 15
Wood's Sons Co., H. 12
Woolsey Paint & Color Co., C. A. 3

PHOS. & FERTS.
German Kali Works. —
Heller, Hirsh & Co. 47
Listers Agr. Chemical Works. 51
Pels, S. 49
Salmon & Co., H. H. 4
White & Co., Thos. H. 52
White, Thos. F. 52

VARNISH & V. GUMS.
Billings, Taylor & Co. 14
Gillespie & Sons, Chas H. 10
Hill's Son & Co., Edward. 15 & 45
Howe & French. 13
Lamson & Bro., John S. 15
Murphy Varnish Co. 12
N. Y. Shellac Co. 33
Paterson, Boardman & Co. 52
Rogers & Pyatt. 32
Standard Varnish Works. 10
Winterbourne, S. & Co. 52
Zinsser & Co., Wm. 51

WHITE LEAD.
Atlantic. 11
Carter White Lead Co. 10
Eagle White Lead Co., The. 11
French & Co., Sam'l H. 11
Lewis & Son, Geo. T. 3
National Lead Co. 13 & 43
Picher Lead Co. 3
Premier White Lead Co. 11

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Bowdlear & Co., W. H. 1

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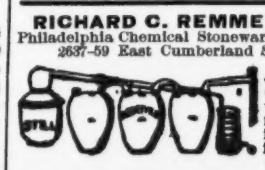
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CONTENTS.

For complete Table of Contents see page 21.

ANSWER OF THE N. W. D. A. IN THE PARK SUIT.

The answer of the defendants to the complaint of the John D. Park & Sons Company has placed before the court all of the facts in this important case, upon which the dissolution of the temporary injunction, or its modification or continuance must depend. It is true that the allegations of the complaint differ in many essentials from the admissions of the defendants, both as to the acts and motives of the latter, but the case has been so fully presented by both sides that there would seem to be little difficulty for the court to determine the facts upon which, in the main, both parties concur. The question, therefore, becomes simply one of law, and upon this the decision will be awaited with much interest. As it appears to us, the issue is upon the right of a manufacturer to fix the price at which his goods shall be sold, and to employ reasonable means for compelling adherence to those prices on the part of his customers. It has always been the custom of manufacturers of a wide range of proprietary articles, including many things other than medicines, to so fix the retail prices of their goods, and in a large share of instances these prices have been printed or otherwise affixed to the goods. This custom is supposed to be, and is, in fact, equally for the protection of the manufacturer and the consumer. It prevents overcharge by which the former could be injured in his sales through the excessive cost thus imposed upon the consumer, and it is altogether logical to assume that equal injury might result to him through the sale of his goods at a price that deprived the natural channels of distribution of a reasonable profit on the traffic. In fact, proofs that such is the case are daily afforded in the retail as well as the wholesale trades. This right of a manufacturer has never been questioned, so far as we know, or, at least, it has never been gainsaid by any judicial authority. Its importance was clearly brought out by the answer of the defendants in this case, and in the arguments of their counsel, as well as in the supporting affidavits. That it will be denied by the court in whose hands the case rests is not to be expected, or, should it be, there is small reason to believe that such a view would be sustained by a higher tribunal. A final decision, adverse to such rights on the part of a manufacturer, would be contrary to every principle of common sense, and common sense is the basis of most laws, even if it does not prevail in their interpretation.

The question of how far a manufacturer may go in compelling the vendors of his goods, after they have become their property, to adhere to the prices which he believes to be essential for his protection, is altogether broader and more open to legal considerations. It was the obvious intent of the complaint in this case to show technical conspiracy between members of the N. W. D. A. to injure the business of the complainant by preventing it from obtaining goods, and upon its uncontradicted statement of the case there was sufficient ground to warrant the assumption by the court that the defendants had so conspired, and the granting of the temporary injunction. As the Reporter said, however, in referring to the injunction at the time it was granted, the complaint contained many allegations which were easily controverted, and the answer printed in our last issue deprived most of those allegations of all force and effect. Why the so-called Detroit and Denver plans, which were never put into effect, nor even adopted by the proprietors, should have been set up in the complaint as acts performed by the defendants, was never quite clear, unless it was assumed that they might serve to show a possible intent which the court would, perhaps, construe as in the nature of a more technical violation of the conspiracy laws than anything which had transpired under the plan that really did exist. As their non-existence was easy of proof and was clearly proven by the answer of the defendants, it is not likely that they will receive any consideration from the court, unless it be to cast doubt upon others of the complainants' allegations. The only question, therefore, is whether the defendants, acting each in his individual right to buy from or sell to whom he chooses, but all in concert in a cause which they believe to be for their common good, have acted illegally, in endeavoring to compel adherence on the part of any vendor to the prices which the manufacturers have fixed upon their products? It has been clearly shown by the defense that there is no collusion between manufacturers, as no two of them are making the same specific article, and in so far as their articles are generically the same, their competition is in no way affected by the acts complained of in this case. The public or the dealers, therefore, are not affected beyond the always recognized right of the manufacturer to say what price they shall pay for his goods.

It has been conclusively shown that the complaining firm has been supplied with such goods as were not on the rebate plan, even by the defendants, and that it could, at any time, have obtained any goods upon an equal footing with all other jobbers. That it did so for a time, and then refused to abide by the conditions to which the others subscribed, is a point also established by the defendants. In the light of decisions in analogous cases, to which reference has been made in these columns in the past few weeks, these facts would disprove any malicious intent on the part of the defendants to injure the business of the complainant, but might rather be construed as an intent of that sort on its part. For these reasons we cannot anticipate a result from these suits either now or, upon appeal, adverse to the continuance of the rebate plan as a whole, even though it should result in any modification of the means employed for its enforcement. A complete victory for the N. W. D. A. will be a most important aid to its efforts to strengthen the plan, by strengthening its weak supporters in the ranks of the association, both among those proprietors whose support has lacked good faith, and the few jobbers who are well known to have repeatedly violated their contracts, but against whom there seems never to be enough conclusive evidence to permit of their being treated as effectively as has been the single concern which brings the present suit. Whatever distinction there is between the open and persistent opponent of the rebate plan and the sneaking occasional violator, is largely in favor of the former, and the conscientious members of the association will strengthen their organization, and the policy of protection which it represents, if they will more courageously and energetically aid the proprietary committee in publicly disciplining the unfaithful members, whom they themselves privately accuse. Whatever sympathy has been accorded the plaintiff in this case, by proprietors or by the houses which have aided it in obtaining goods, has been largely due to the belief that even-handed justice has not been meted out to violators of the rebate plan. This is not charged to any fault of the committee, but to the failure of members generally to furnish evidence against other houses, which has led to the belief that, if the methods employed to detect violations among members were as thorough as those that have obtained the conclusive evidence against the Park company, the latter would have occupied a less conspicuous position.

THE ALKALI INDUSTRY IN GREAT BRITAIN AND AMERICA.

In another column of this issue will be found a review of the annual report of the inspector of the British chemical industries, which is of interest to consumers, as well as manufacturers on this side of the water, as indicating the changes that have occurred in some branches of this industry during the past few years. The most notable feature of the report is its reference to the revolution that has been brought about in the alkali trade by the Solvay process, the employment of which dates back only about twenty years. The extent to which this process had displaced that of Leblanc in the manufacture of alkali, was generally appreciated by those conversant with the trade here as well as abroad, and the fact that the older process is still to be credited with so large a share of the production as is shown by the statistics given is rather surprising. At the same time, the growth of the ammonia process is none the less notable, and its full extent is not apparent from the figures referred to, for the reason that they apply only to Great Britain. Since the Solvay process was introduced the development of the industry in this country, in which it is solely employed, has displaced a very considerable amount of foreign alkali, and in a comparison with any period preceding the establishment of the first Solvay works here, it would be proper to combine the figures representing the production in both countries. At the present time it is safe to assume that the American production is equivalent to more than 250,000 tons annually. This addition to the British production would put the Solvay product very largely ahead of the Leblanc, and, although the growth of the industry here has been very rapid of late, it was doubtless sufficient last year to more than overcome the deficit which the figures in the report show in the production of ammonia soda in 1894, as compared with the older product, though it may not have been in 1893. As is indicated in the inspector's report, the production of ammonia soda must steadily increase, by reason of its less cost, but there is, at the same time, a demand for hydrochloric acid, resulting from the Leblanc process, to be employed in the manufacture of bleach, which will always—or, at least, until a new discovery in chemistry renders it no longer essential, require a certain amount of salt to be decomposed in the old way. As the American climate is wholly unsuited to the manufacture of bleach, there is little likelihood that its requirements will ever influence producers here to employ the Leblanc method to any extent, and the growth of the alkali industry in this country is pretty certain to be in connection with the ammonia-soda process, unless the long-promised and much-experimented-with electrical processes become a commercial success. Thus far they have yielded nothing, either here or abroad, that give them any present commercial significance. Vast sums have been spent in experimental development, and the results obtained, taken in connection with the successful employment of electrolysis abroad in the manufacture of chlorate of potash, certainly encourage the belief that this may, at some time in the future, be the most important factor in the manufacture of the sodas. In this connection the article in another part of this issue of The Reporter upon the "Electrolysis of Chloride" will be read with much interest. Whatever progress electrolysis may make in the future is likely to be in the way of supplanting the Leblanc, rather than the ammonia-soda process, since the latter must be depended upon to yield the alkali which is not produced by the electrical methods. In the mean time, however, the only threatening obstacle to the growth of the alkali industry in this country is the competition, which has already led to a basis of prices that offers no encouragement to new enterprises, and even imperils those that have an established existence.

THE DECISION ON ACID MAGENTA.

The decision of Judge Townsend of the United States Circuit Court, in the case of an alleged infringement of the patents on what is commercially known as acid magenta, will be read with considerable interest by the trade. It has been expected for several months, but the learned Judge doubtless realized the importance of the issues involved, and determined to cover the case in all its phases in rendering his decision. The decision is a very broad one, and grants the patentee the most ample protection. The infringing article was known commercially as new acid magenta, and was sold as the equivalent of acid magenta. It was the exact technical equivalent of the patented article. The evidence proved that the defendant used the same process and obtained the same product from a body belonging to the same class, a homologue of complainant's bodies. The defendant claimed that the body from which he obtained his product was neither described nor designated as a chemical individual until after the date of the patent. The admissions of his experts proved that it was known and used before the date of the patent. The Court said that the most the defendant could claim was that, while it was known it was not isolated as a chemical individual until after the date of the patent. The Court stated clearly the issue in this case as to whether a patentee may protect, or an infringer appropriate, a discovered, described, existing element, not isolated at the date of the patent, and held for the patentee, stating that the discoverer is protected against equivalent ingredients known at the date of his patent, and also holding that the first discovered is protected against subsequently known equivalents. The decision appears in full on another page of this issue.

UNCERTAIN OUTLOOK FOR WINDOW GLASS.

Since the majority of the window glass factories went out of blast on June 1, pursuant to previous agreement, the entire trade has been at sea regarding the future of this industry. There are two factors of prime importance in the trade, which, later on, may determine whether or not prices can be maintained at or near present quotations, or advanced to a point where manufacturers will admit that a fair profit is probable.

One of these questions is whether or not the workmen will insist upon a higher scale of wages for the next fire. The chances are that they will. The workers' annual convention will assemble in Pittsburgh on July 6, at which time and place they expect to meet a committee from the factories, when it is hoped a satisfactory scale will be agreed upon for the coming season.

Unless the manufacturers shall meet the expectations of the workers, it is generally feared that trouble will ensue, which means that the factories will not be able to start at the expected time.

Last season was a very short one, and the workmen made not more than half time, owing to the closing down of business at the works for six weeks last winter. Naturally the blowers feel that they should be favored in the matter of an early start next autumn, and should

they be disappointed in this, the consequences may be embarrassing to American window glass interests.

There was recently some fear that importations would increase to abnormal proportions, based upon the idea that labor disturbances in this country would cause a decrease in the production of domestic window glass. This view was partially verified. During the months of April and May the receipts from France and Belgium were large, but we understand that the bulk of these goods was imported as the outcome of a speculative movement.

The consumption of window glass has undoubtedly decreased since the beginning of the year, and there is little probability that foreign glass can for some time to come be imported into our markets in large quantities so as to yield a satisfactory return to importers.

Trade, as everybody understands, is depressed, but it is not generally suspected to what extent window glass has this season been superseded by plate glass. The fact is that very few country or farm houses or other structures which would use window glass exclusively have this year been commenced. Building improvements have almost exclusively been confined to edifices designed for office or store purposes, where plate glass is preferred as a material for windows and doors. This, of course, detracts from the movement in window glass, and adds to the uncertainty of that product in the future.

THE OUTLOOK FOR OPIUM

We are now on the eve of a new crop of opium, hence the situation has assumed a more interesting phase, in the eyes of the trade. The market has been dull for over two months, a state of affairs not unusual between seasons in this drug. Many estimates of the new crop have been sent out from the primary markets since the spring, but it has become customary to accept them all with certain grains of allowance, as they usually emanate from parties interested in manipulating the market one way or another. This year, however, there has been more or less unanimity of ideas as to the probable yield, and all parties have agreed that the crop will be below the world's annual consumption, which is usually about 6,000 cases of the Turkish variety. A number of reasons are given for this shortage. Frosts in the early spring are probably responsible for considerable damage to the young plants, and the disturbed state of Asiatic Turkey is thought to be responsible for a smaller acreage. The price realized for last year's crop was a fair one, hence it may be assumed that the farmers, under ordinary conditions, would have planted acreage sufficient to produce an average yield of the poppy juice.

The statistical position of the drug does not appear to warrant a belief in lower prices for the new crop. The average annual importations into the United States for the past seven years, from July 1 to June 30, were 3,471 cases, or, in round numbers, 3,500 cases, which is a safe estimate of the average annual consumption. In actual figures the record stands thus:

1889-90	2,540
1890-91	4,145
1891-92	3,915
1892-93	4,085
1893-94	4,780
1894-95	2,386
1895-96	2,437

The large importation of 1893-94 was due to the thought that a tax of one dollar per pound would be placed on the drug by the framers of the tariff act of 1894. The figures show a falling off the two years following, the supply naturally assuming its proper relation to the demand.

The first day of July is considered the day for taking the stock of opium in all the world's markets, from whence the drug is distributed. Conservative estimates place it at 800 cases in Constantinople, 2,112 cases in Smyrna, 200 cases in Salonica 600 cases in London, 1,100 cases in New York, and 500 cases in Philadelphia, or a total visible supply of 5,312 cases. The estimates of the new crop run as high as 4,500 cases, and as low as 3,000 cases. If we take an intermediate figure, 4,000 cases may not be out of place. This would give a supply of 9,312 cases to meet the demand for the coming year, from July 1, or sufficient for a consumption of eighteen months. Those of bearish propensities are prone to think that a visible supply sufficient for the world's demands for a year and a half too much. On the other hand, the fact must not be overlooked that it has always been considered safe, by those who take a conservative view of the opium situation, to have a visible supply in excess of the annual wants of consumers, to be prepared for any possible shortage in the next year's crop, as affairs are always so uncertain in the dominions of the Turks, and the yield of opium is apt to fluctuate to a considerable extent. In spite of the apparent large visible supply, and the dulness of trade, the market possesses elements of strength. The stock in New York and Philadelphia is less than the consumption for six months, and it is usual for the morphine manufacturers to carry a suppy of gum sufficient to last them for that length of time.

The demand for opium is on the increase, and there are evidences that sooner or later the supply will be greater. In certain parts of European Turkey the poppy is being grown for the first time, and the acreage will probably increase somewhat each year, but for the present the conditions which govern the market will doubtless continue to be the ruling factors. Another feature which may have an effect on the price is the decline in the price of Persian opium. While this variety contains a high percentage of alkaloid, it is more difficult to manipulate, hence has never been in favor with American morphine makers. It is used to some extent by English makers. As against a possible depressing effect on the price of the Turkish variety, a shortage in the yield of the soft shipping gum would have a stiffening effect, as the West Indian trade would probably use the current opium.

DISCOUNTS ON PHARMACEUTICALS.

Ever since the break made by one pharmaceutical manufacturing house two or more years ago, in increasing its discount to the retail trade to forty per cent., there has been a good deal of uncertainty felt as to whether this would not, sooner or later, be met by all other houses in the same line, and 40 per cent., instead of being granted only to such retailers as could take the quantity, became the general retail discount. In this event, of course, the jobbing discount would be increased so as to be practically fifty per cent. At the present time most pharmaceutical houses are giving forty off to the jobber and twenty-five to the retail trade, with the exceptions noted, but there are variations in this corresponding with the differences in lists. However, the result to the jobber is, on the face, better than he would realize from the new list based on forty off to the retail trade. As offsetting this, the claim of uniformity in the discounts to the latter, and a discontinuance of the jobbing discount to any retail buyer, is advanced by manufacturers, who advocate the wider discount, but the jobbing trade seems to rather favor the old forty per cent. basis, from which they can retain fifteen, as against about ten under the newer schedule, even if they lose the large retailers. One of the larger manufacturing houses has lately canvassed the jobbing trade for an expression of views upon this point, avowing its readiness to meet the cut if it should be favored by the jobbers. It now announces as the result of its investigation a determination to adhere to the present discounts, and similar intentions are expressed by other manufacturers, so long as they are not forced to make a change. It is apparent, however, that the question has not been settled by the lapse of time since it was first sprung on the trade, nor even by the preferences recorded by the jobbers, and there are evidences of a little wavering in terms on the part of some of the manufacturers, who have nominally made no changes in their discount sheets. If the outcome of this should be a general change to forty off to the retail trade, it would not be surprising, although it might be disappointing alike to the jobbing trade and the manufacturers generally, who appreciate that the margin of profit in their business at present is not wide enough to warrant any increase of discounts on the general line. Except to the houses which have a good line of specialties to fall back upon, a sacrifice of any portion of the profit now derived from the staples might well be viewed with apprehension. The change would naturally not be favorable to such jobbing houses as push their own extracts and other preparations, since they are afforded, by the present list and discounts of most of the manufacturers, a margin which gives an opportunity for a slight cut, and still leaves some profit. It is doubtful, we believe, whether many jobbers have ever found real profit in the net results of a manufacturing department, and if retailers are to enter the field with their co-operative factories, which will naturally aspire sooner or later to make full lines of pharmaceuticals, and at the same time the pharmaceutical houses are to lower prices, the opportunities for the manufacturing jobber, with his limited field, will be seriously hampered. Whether this accounts for some of the expressions favorable to the retention of the present terms is not quite clear.

TRADE ITEMS.

[*For other Trade Items see contents on page 21.*]

Mr. A. Klipstein sailed on Tuesday last for his usual annual vacation abroad.

Marston & Gorham's wall paper and paint store at Bangor, Me., was destroyed by fire last Thursday.

Mr. Henry B. Platt and family were passengers on the steamer Spree on Tuesday, and will be absent in Europe for some months.

Mr. George W. Kenyon of the Martin Kalbfleisch Company returned from Europe on Wednesday, and has quite recovered his usual good health.

Stevens' flat brick red has become very popular, as have other specialties of the Stevens' Paint Specialty Co., Brooklyn, N. Y. Buyers will do well to send for samples and quotations.

A bill to compel the printing of the formula on the labels of all patent medicines containing poisons was introduced into the Louisiana Legislature last week, but was killed in committee.

The Andress-Meara Wall Paper Company of Cincinnati has made an assignment. Charles F. Andress, the president, died two months ago. Most of the purchases were made in the East.

Mr. William C. Robinson, the popular Houston, Texas, broker in cottonseed products was on 'Change on Thursday last, and says that the drought in the State is too pronounced, even for a Texan.

Mr. R. D. McLeod, vice-president of the Whitney Glass Works, was in town last week, and will hereafter give a greater share of his time to looking after the interests of the company in this market.

Among the business changes which took place on the first of the month was the consolidation of the well-known firms of John Dwight & Co. and Church & Co., of this city, manufacturers of bicarb and sal soda.

St. Philip's Special Remedies Company has been incorporated at Chicago, capital stock, $25,000, to manufacture medicines; incorporators, William J. Clancy, James Grennan and William P. Brady.

The partnership between Malcolm Graham, Jr., and Seton H. Rich, under the firm name of Aquila Rich & Co., has been dissolved. The business will be continued under the same firm name by Malcolm Graham, Jr.

Mr. F. R. McDermott, Chicago, representative of the Nichols Chemical Company, made his appearance at the Drug Trade Club on Tuesday and received the hearty greetings of his many New York friends in the trade.

The partnership under the style of G. P. Couper & Co. has been dissolved by mutual consent. Mr. Couper will continue business in this city as G. R. Couper & Co., and Mr. Jackson in Philadelphia as Ellis Jackson & Co.

Col. J. J. Culbertson of the Paris Cotton Oil Company, Paris, Texas, has been in the city for a few days recuperating from the effects of his trip abroad, where he has been since last April in the interest of his company.

Mr. W. M. Warren, of Parke, Davis & Co., was in town last week en route to some of the New England seashore resorts, where he will recreate for a while. He was accompanied by Mrs. Warren and his normal stock of good nature.

Mr. A. L. Clements has succeeded in establishing an extensive business in linseed oil, due largely to his great personal popularity and his strict adherence to sound business principles. He will remain an important factor in the linseed oil trade of this city.

Mr. H. B. Harding of the Humphrey's Medicine Company will receive the sympathy of the trade in the loss he has sustained by the death of his aged mother, whose illness, which called him to the Provinces some weeks ago, terminated fatally on Thursday last.

The expedition organized by the National Association of Manufacturers to visit the southernly portion of South America, particularly the Argentine Republic, sailed from this port on the steamer St. Paul last Wednesday. Mr. Frederic Stearns, of Detroit, Mich., is one of the party.

Mr. S. A. Budgett, of Messrs. Munro & Co., this city, was a passenger on the steamer Umbria, which grounded in Gedney Channel on the outward trip from this port on the 27th ult. He is accompanied by his wife and will spend a few weeks in England and on the Continent.

Judge Russell of the Supreme Court last week granted an order dissolving the French Mirror Plate Company of this city, with branches at Philadelphia and Chicago, and continuing Frank H. Dyckman as permanent receiver. The company applied for a dissolution in February last.

Mr. Max Fuchs, manager of the sponge department of the Stein-Vogler Drug Company of Cincinnati, was in town last week and sailed for Trieste, where he will pass some time investigating the markets and making purchases of sponges, in which his company makes a specialty as direct importers.

In making brilliant glass in Germany a suitable crystal glass batch is melted together with a silver salt in solid or dissolved condition. This glass is flashed upon glass articles, which are then treated by gases producing a reduction. The silver contained in the glass is hereby reduced on the surface of the glass objects into metallic silver.

Mr. Walter D. Gregory, general manager for Charles H. Gillespie & Sons, varnish makers, sailed last Wednesday on the steamer St. Paul for an extended trip in the interests of the firm through England, Scotland, Belgium, Germany and France. He will spend considerable time at the branch house of Gillespie & Sons at Glasgow, Scotland, which will be his headquarters while abroad.

About 350 ounces of phenacetine and 150 ounces of antipyrine smuggled into Philadelphia last winter and seized by the customs officials there were sold at auction by the government on Monday last. The phenacetine was bought by the representative of Schieffelin & Co., of this city, at 75 cents per box of about three and a half ounces, and the antipyrine by Joseph Bull of Philadelphia, at 80 cents per box.

Commodore W. Townley Case and his pirate crew have returned from the cruise of the Nydia, and Commander Emerson is again in charge of the ship. The party spent a week on the placid waters of the Chesapeake, with an occasional turn outside, and a landing at Old Point, Annapolis and other places. The inexhaustible resources of the larder, and the boundless hospitality of the owner, are the only features of the trip that any of those who participated in it are able to recall.

Following the successful organization of the National Association of Credit men, recently effected at Toledo, the New York Credit Men's Association have decided to make special efforts to secure a considerable increase in the membership of the local association. The officers of the New York Association, which was organized Sept. 19, 1895, and incorporated in January, 1896, are as follows: President, M. E. Bannin; vice-president, F. R. Boocock, treasurer, William Naumburg; secretary, H. J. Sayers.

C. W. Preston, a prominent druggist doing business at Galveston, Texas, under the name of C. W. Preston & Co., assigned last week. Amount preferred, $8,386.42. There was no statement of assets and liabilities rendered. S. M. Penland was made trustee. He will sell the property and collect accounts and claims, and apply the proceeds to paying off the preferred creditors, all of whom are local.

The Salt Union, who had made a communication to the Liverpool Chamber of Commerce on the subject of the duties charged at this port on salt, and to the desirability of their reduction, have been asked for a further detailed statement showing how this port compared with other ports in the matter of dues on salt, and they have been informed that such a statement, if furnished, would be laid by the chamber before the Mersey Docks and Harbor Board, with a request that the question should be reconsidered.

The American Fire Resisting Paint Company, offices at 17 Broadway, this city, and works at Elizabeth, N. J., are making a fire resisting paint that seems to come up to all the claims that are made for it. At the time of the William & Clark Fertilizer Company's fire the two buildings painted with this paint withstood the fire while fourteen others were totally destroyed. This is only one instance of many where buildings have been saved from destruction by the use of this paint. An additional advantage is that the cost of insurance is considerably lessened. The average length of service of this paint is about eight years, so its durability compares favorably with the best paints on the market which do not resist fire. Write the company for literature and quotations.

Much interest is felt throughout the leather trade generally over a preliminary injunction which was recently granted by Judge Colt, in Massachusetts, against John Donallan, of Lynn, Mass., and in favor of the Patent Tannage Company, of Philadelphia. A suit was brought some time ago by this company against Donallan for alleged infringement of their patented chrome tannage process. This process is a mineral tannage, and oxidizes the leather, giving it a peculiarly soft polish. The Patent Tannage Company, which owns the patent, allows manufacturers to use the process upon an initial payment of a license of $2,500, and also the payment of a royalty on all goods finished by it. This royalty is 12½ cents per dozen on goat skins, which are taken as a basis, the amount of royalties on other skins varying

PETROLEUM NOTES.

The holders of territory in the vicinity of the Rosenbery well, west of Parker, are losing no time in starting new work. The initial well is holding up at about 100 barrels a day.

In the Cecil pool the Forest Oil Company is in the sand four bits at its No. 7 Chambers and has a good show for a paying well. This in the farm recently purchased from the Midway Gas Company by the Forest Oil Company for $60,000.

The work of deepening the port of Batoum to twenty-six feet at the naphtha loading stage is now finishing. The mole is to be extended to a length of 1,750 feet, so that the port can serve as a station for the Black Sea fleet in all weathers.

Judge M. W. Acheson, in the United States Circuit Court at Pittsburg, has decided the patent dispute of George Allen against W. M. and J. P. Emery and others, in which an infringement of an improved oil-pumping machine was alleged. Judge Acheson granted the injunction asked for.

The production of naphtha in the Northern Caucasus—Kuban, Ter and Dagestan districts—during 1895 was as follows: Kuban, 21,649 tons; Ter, 45,766 tons, and Dagestan, 34 tons, or a total of 479,347 tons, of which about 435,000 tons were obtained from fountains and the balance from wells. Altogether there were thirty-eight bores.

In the Ogden, Berea grit pool, south of Waverly, the Largey & Co. well on the Little farm is in the sand and showing for 100 barrels a day. The well is somewhat important, being located a little to the southwest in a 45 degree line. Operations in the Ogden pool are very lively and the number of wells nearing the sand will lend additional interest to that development. One dry hole is all that mars its record up to this time.

One of the largest deals in oil recently consummated has been closed between C. D. Greenlee and the United States Oil Company of Boston. Mr. Greenlee has sold his individual interests in the Cecil pool in Washington County and the Ogden pool in Wood County, W. Va., to the big Boston syndicate, for $100,000. The transaction involves leases on 4,000 acres of territory, with twelve wells and a production of 300 barrels a day. Mr. Greenlee organized the United States Company less than a year ago, and is the largest individual stockholder. He was made general manager and will continue in that capacity.

The Carter Oil Company's well on the Livingston farm, between the Wick pool and the Cow Run sand development at Hebron, Pleasants County, is worthy of some consideration. The oil was developed in the Big Injun sand and the production was estimated at seven barrels an hour. At this time the relative position the well bears to other developments cannot be determined. It may show an extension to the southwest of the Bullman development or it may be the forerunner of a separate and distinct pool. As a new discovery it is of considerable importance, and future operations in that vicinity will be watched with interest.

One of the big oil stills in the Eagle Refining Company's works at Cavar Point, Jersey City, on the New York Bay shore, exploded Saturday night, 27th ult., and carried away the roof of the building. A volume of flame followed the explosion and caused a brilliant illumination in the sky. The firemen were unable to do anything to check the flames, but the oil was drawn off from the adjoining stills to avoid danger of the fire spreading. A small 100-barrel naphtha tank exploded a few minutes after the first explosion. The building was badly wrecked. The big still contained 1,000 barrels of oil in process of being refined. The loss on the oil and the still is estimated at $10,000, and on the building at $10,000 more.

The Hopper fourth sand pool has come to the front again with a gusher. The new strike is Gallagher Bros.' No. 5 Daniel Hopper, and started at 30 barrels an hour. While the well was flowing at the rate of 20 barrels an hour the Gallagher Bros. and Daniel Hopper were standing on top of the tank watching it flow, when a farmer approached the tank and was invited to climb up and see the oil pouring out of the lead lines. The farmer got up on the tank, but being a litle short-sighted in both eyes, as well as judgment, struck a match and held it over the tank; instantly the gas caught fire, and the Gallagher Bros., Hopper and the farmer were quite badly, but not dangerously burned. By prompt action the fire was put out before it got well under way and little damage was done.

The British Consul at Chungking, China, reports that the prohibition against the use of kerosene oil within the city—issued in consequence of the disastrous fire of August, 1894—has been maintained to a great extent in 1895. I am informed that the objection of the authorities to the use of this oil is not now particularly strong, and might be overcome, but that popular opinion, while permitting the employment of kerosene lamps in private compounds, sets its face against their use in small shops and tenements. The solution of the question is not easy. A safe lamp is beyond the means of the ordinary native, while the lamp that he can afford, roughly put together and with thin glass reservoir, is without doubt a source of danger. The oil used is American, and of somewhat low flashing point. The import, which was 55,000 gallons in 1893 and 35,040 gallons in 1894, has further declined to 12,700 gallons in 1895.

Clarion, as well as Parker, is having a little later-day oil excitement. It is not on a large scale, but it is furnishing some gossip for the old-timers in that locality. A short time since the Riverside Oil Company drilled in a well on the Wood lot, near the Clarion Normal School grounds that is still holding up at 50 barrels a day. The well was drilled into sixty-five feet of good sand, and it has been the incentive for starting a half dozen new wells in that immediate locality. Back in 1888-89 excitement was at a high pitch in that territory, and southwest of this new attraction W. H. H. Piper drilled in a well on the Campbell lot that started at 4,000 barrels a day. About the same time Cadwallader & Leeper drilled a well equal in size on an adjoining lot. The new work now starting is principally to the north and east of the 45-degree line passing through the old development. West of the same line the Riverside Oil Company, a concern by the way, that holds leases on the most of the desirable territory, has made a location on the Rev. Knapp farm, and the Enterprise Oil Company has made a location across the Clarion River on the T. C. Wilson lot. The oil is developed in the third sand at a depth of 1,100 to 1,200 feet, and the cost of drilling a well is not more than $700.

OBITUARY.

John Kerry.

Mr. John Kerry, head of the firm of Kerry, Watson & Co., of Montreal, died suddenly at his residence in that city on Tuesday last. Mr. Kerry, who was in his 71st year, was one of the foremost merchants of Montreal, and was highly respected not only in that city, but throughout the Dominion. He was at one time president of the Montreal Board of Trade, and his long and prominent connection with mercantile affairs had made him known to business circles in all of the Canadian cities, as well as in this country, where his reputation has always been of the highest.

Leander Townsend Savage.

Mr. Leander T. Savage, who for many years has been well known to the chemical trade through his connection with the Martin Kalbfleisch Chemical Company, and the old firm which it succeeded, died suddenly on Tuesday last at his home at Rutherford, N. J. Mr. Savage was at his desk as late as Monday, although he had not been in good health for some months past, but on the following day was stricken with apoplexy, from which he died a few hours later. His death was no less a shock to his business associates than to his family, and is deeply regretted by all of his very numerous friends. Mr. Savage had served in confidential positions with the Kalbfleisches for about twenty-eight years, and had always commanded the most perfect confidence and thorough respect of the members of the firm and its successors. He was a most genial associate, and in his long connection with the trade, had made a very extended circle of acquaintances, who entertained for him a very warm regard.

John Bayley.

Mr. John Bayley, who was for many years connected with the paint trade here, died Thursday last at the residence of his daughter, Mrs. T. W. Richmond, at North Adams, Mass. Mr. Bayley was born at Warwick, R. I., July 20, 1816, and had, therefore, nearly completed his eightieth year. He entered the employ of Raynolds, Devoe & Pratt in 1860, and remained with the Raynolds succession to the firm until about ten years ago. He was widely known, especially in the eastern section of the country, to the paint trade, and was a successful salesman. At one time Mr. Bayley acquired quite a fortune in oil speculations, but the bulk of this was subsequently lost in the same manner. He resided in Brooklyn for more than thirty years, but had latterly made it his home with his daughter, at whose home he died. Some months ago he was stricken with paralysis, and had suffered five strokes, the last of which proved fatal. Besides his daughter, Mrs. Richmond, he leaves one son, John A. Bayley, of this city.

Jules S. Abecasis.

Mr. Jules S. Abecasis, a well-known downtown merchandise broker, who for many years has been prominent in the India rubber market, died at the New York Hospital on Thursday last from injuries sustained by a fall from a bicycle on Monday. Mr. Abecasis was 70 years of age, and while riding his wheel at Broadway and 40th street, was run down by an express wagon. He was thrown to the ground, and so severely injured, that he never quite rallied from the shock.

Insurance Commissioner Merrill, of Massachusetts, has asked the Attorney-General to apply for a receiver for the Commerce Fire Insurance Company of Boston, which was organized about a year ago, and was operated in conjunction with the Elcelsior Mutual Fire Insurance Company of Boston, now defunct. It did a general business throughout the country. The amount of its assets and liabilities is not yet ascertained.

MISCELLANEOUS.

Insurance Notes.

The Boston Board of Fire Underwriters, at a special meeting, voted to increase the allowance made on standard sprinkled risks from 30 per cent. to 40 per cent. The meeting was well attended and the vote was unanimous. Last year a similar proposition, the allowance asked for, however, being 50 per cent., was defeated by a vote of 17 to 7.

The Supreme Court at St. Paul has rendered its decision in a number of suits involving the insolvent National Credit Insurance Company, which, insured merchants against "excess losses." due to the failure of their creditors. These were determined by deducting from such losses 15 per cent., and 1 per cent. of the total sales for the year, not to be less than a stipulated amount. Allen & Marvin took out a policy for a year on a stipulated sale, $90,000, but aften ten months the insurance company assigned, the sales at the time having been but $75,000. The court holds that the excess losses should be computed by deducting 1 per cent. of $75,000, and not of $90,000, and further, that the policy holder was entitled to recover his premiums for the unexpired portion of the year, and all holding such claims are entitled to participate in funds in the hands of the State Insurance Department.

Receiver for Bosshardt & Wilson Company.

Advices from Philadelphia state that a receiver was appointed on Wednesday for Bosshardt & Wilson Company, refiners and exporters of petroleum in that city. The company succeeded to the business of Bosshardt & Wilson, who were the successors of Webster Bros. & Wilson, and was incorporated in November, 1890. It is capitalized at $200,000, and by its own statement, made in March last, had assets of $431,000 against liabilities of $231,000. At the same time it was regarded as rather slow by the trade, and the receivership is not altogether a surprise.

Judgments Recorded.

Following is a list of judgments filed in the County Clerk's office during the past week:

Higgins Soap Company, $2,123, in favor of R. H. Thompson et al.

The Vesey Import and Export Company, $189, in favor of C. B. Granville.

John La Farge, $1,422, in favor of F. W. Devoe and C. T. Raynols Company.

Susan Bentley, $3.47, in favor of F. W. Devoe and C. T. Raynolds Company.

George Borman, $688, in favor of J. C. Wiardi & Co.

United Growers Company, $848, in favor of National Distilling Company.

Patrick A. Dallard, $1,638, in favor of C. DeP. Field et al.

Ralph Raymond, $158, in favor of . Starace.

James Stikeman, $174, in favor of E. P. Thompson.

Anna B. Gibbs, $121, in favor of Kalish Pharmacy.

George Fletman, $433, in favor of Middleton Glass Co.

(Special Correspondence to the Reporter.)

Pacific Coast Trade Items.

San Francisco, June 27, 1896.

Trade is quiet now, and will be so for thirty days. On Aug. 1 the Fall trade begins, which promises to be very good. The Spring averaged up poorly, on account of the painters' strike. While the strike was settled at $3, complaints have been entered that some houses are paying but $2.50 per day, so that it is felt that the troubles are by no means over, and may be reopened at any moment.

The goods of the American Oil Company are to be sold at auction next week by the assignee, J. J. Searle. It is understood that Mr. Low will reenter the business.

In candles there is great competition, and a very active market, both in Eastern and Western brands. Prices are extremely low, as every one is out for business in lively fashion. The mining revival in the State has not increased the coast demand for candles, as the falling off in the silver mines is very considerable.

The new factory of W. P. Fuller & Co. is being rapidly pushed. The structure will be done in about three

they be disappointed in this, the consequences may be embarrassing to American window glass interests.

There was recently some fear that importations would increase to abnormal proportions, based upon the idea that labor disturbances in this country would cause a decrease in the production of domestic window glass. This view was partially verified. During the months of April and May the receipts from France and Belgium were large, but we understand that the bulk of these goods was imported as the outcome of a speculative movement.

The consumption of window glass has undoubtedly decreased since the beginning of the year, and there is little probability that foreign glass can for some time to come be imported into our markets in large quantities so as to yield a satisfactory return to importers.

Trade, as everybody understands, is depressed, but it is not generally suspected to what extent window glass has this season been superseded by plate glass. The fact is that very few country or farm houses or other structures which would use window glass exclusively have this year been commenced. Building improvements have almost exclusively been confined to edifices designed for office or store purposes, where plate glass is preferred as a material for windows and doors. This, of course, detracts from the movement in window glass, and adds to the uncertainty of that product in the future.

THE OUTLOOK FOR OPIUM

We are now on the eve of a new crop of opium, hence the situation has assumed a more interesting phase, in the eyes of the trade. The market has been dull for over two months, a state of affairs not unusual between seasons in this drug. Many estimates of the new crop have been sent out from the primary markets since the spring, but it has become customary to accept them all with certain grains of allowance, as they usually emanate from parties interested in manipulating the market one way or another. This year, however, there has been more or less unanimity of ideas as to the probable yield, and all parties have agreed that the crop will be below the world's annual consumption, which is usually about 6,000 cases of the Turkish variety. A number of reasons are given for this shortage. Frosts in the early spring are probably responsible for considerable damage to the young plants, and the disturbed state of Asiatic Turkey is thought to be responsible for a smaller acreage. The price realized for last year's crop was a fair one, hence it may be assumed that the farmers, under ordinary conditions, would have planted acreage sufficient to produce an average yield of the poppy juice.

The statistical position of the drug does not appear to warrant a belief in lower prices for the new crop. The average annual importations into the United States for the past seven years, from July 1 to June 30, were 3,471 cases, or, in round numbers, 3,500 cases, which is a safe estimate of the average annual consumption. In actual figures the record stands thus:

1889-90	2,540
1890-91	4,145
1891-92	3,915
1892-93	4,085
1893-94	4,780
1894-95	2,386
1895-96	2,437

The large importation of 1893-94 was due to the thought that a tax of one dollar per pound would be placed on the drug by the framers of the tariff act of 1894. The figures show a falling off the two years following, the supply naturally assuming its proper relation to the demand.

The first day of July is considered the day for taking the stock of opium in all the world's markets, from whence the drug is distributed. Conservative estimates place it at 800 cases in Constantinople, 2,112 cases in Smyrna, 200 cases in Salonica 600 cases in London, 1,100 cases in New York, and 500 cases in Philadelphia, or a total visible supply of 5,312 cases. The estimates of the new crop run as high as 4,500 cases, and as low as 3,000 cases. If we take an intermediate figure, 4,000 cases may not be out of place. This would give a supply of 9,312 cases to meet the demand for the coming year, from July 1, or sufficient for a consumption of eighteen months. Those of bearish propensities are prone to think that a visible supply sufficient for the world's demands for a year and a half too much. On the other hand, the fact must not be overlooked that it has always been considered safe, by those who take a conservative view of the opium situation, to have a visible supply in excess of the annual wants of consumers, to be prepared for any possible shortage in the next year's crop, as affairs are always so uncertain in the dominions of the Turks, and the yield of opium is apt to fluctuate to a considerable extent. In spite of the apparent large visible supply, and the dulness of trade, the market possesses elements of strength. The stock in New York and Philadelphia is less than the consumption for six months, and it is usual for the morphine manufacturers to carry a suppy of gum sufficient to last them for that length of time.

The demand for opium is on the increase, and there are evidences that sooner or later the supply will be greater. In certain parts of European Turkey the poppy is being grown for the first time, and the acreage will probably increase somewhat each year, but for the present the conditions which govern the market will doubtless continue to be the ruling factors. Another feature which may have an effect on the price is the decline in the price of Persian opium. While this variety contains a high percentage of alkaloid, it is more difficult to manipulate, hence has never been in favor with American morphine makers. It is used to some extent by English makers. As against a possible depressing effect on the price of the Turkish variety, a shortage in the yield of the soft shipping gum would have a stiffening effect, as the West Indian trade would probably use the current opium.

DISCOUNTS ON PHARMACEUTICALS.

Ever since the break made by one pharmaceutical manufacturing house two or more years ago, in increasing its discount to the retail trade to forty per cent., there has been a good deal of uncertainty felt as to whether this would not, sooner or later, be met by all other houses in the same line, and 40 per cent., instead of being granted only to such retailers as could take the quantity, became the general retail discount. In this event, of course, the jobbing discount would be increased so as to be practically fifty per cent. At the present time most pharmaceutical houses are giving forty off to the jobber and twenty-five to the retail trade, with the exceptions noted, but there are variations in this corresponding with the differences in lists. However, the result to the jobber is, on the face, better than he would realize from the new list based on forty off to the retail trade. As offsetting this, the claim of uniformity in the discounts to the latter, and a discontinuance of the jobbing discount to any retail buyer, is advanced by manufacturers, who advocate the wider discount, but the jobbing trade seems to rather favor the old forty per cent. basis, from which they can retain fifteen, as against about ten under the newer schedule, even if they lose the large retailers. One of the larger manufacturing houses has lately canvasssed the jobbing trade for an expression of views upon this point, avowing its readiness to meet the cut if it should be favored by the jobbers. It now announces as the result of its investigation a determination to adhere to the present discounts, and similar intentions are expressed by other manufacturers, so long as they are not forced to make a change. It is apparent, however, that the question has not been settled by the lapse of time since it was first sprung on the trade, nor even by the preferences recorded by the jobbers, and there are evidences of a little wavering in terms on the part of some of the manufacturers, who have nominally made no changes in their discount sheets. If the outcome of this should be a general change to forty off to the retail trade, it would not be surprising, although it might be disappointing alike to the jobbing trade and the manufacturers generally, who appreciate that the margin of profit in their business at present is not wide enough to warrant any increase of discounts on the general line. Except to the houses which have a good line of specialties to fall back upon, a sacrifice of any portion of the profit now derived from the staples might well be viewed with apprehension. The change would naturally not be favorable to such jobbing houses as push their own extracts and other preparations, since they are afforded, by the present list and discounts of most of the manufacturers, a margin which gives an opportunity for a slight cut, and still leaves some profit. It is doubtful, we believe, whether many jobbers have ever found real profit in the net results of a manufacturing department, and if retailers are to enter the field with their co-operative factories, which will naturally aspire sooner or later to make full lines of pharmaceuticals, and at the same time the pharmaceutical houses are to lower prices, the opportunities for the manufacturing jobber, with his limited field, will be seriously hampered. Whether this accounts for some of the expressions favorable to the retention of the present terms is not quite clear.

TRADE ITEMS.

[For other Trade Items see contents on page 21.]

Mr. A. Klipstein sailed on Tuesday last for his usual annual vacation abroad.

Marston & Gorham's wall paper and paint store at Bangor, Me., was destroyed by fire last Thursday.

Mr. Henry B. Platt and family were passengers on the steamer Spree on Tuesday, and will be absent in Europe for some months.

Mr. George W. Kenyon of the Martin Kalbfleisch Company returned from Europe on Wednesday, and has quite recovered his usual good health.

Stevens' flat brick red has become very popular, as have other specialties of the Stevens' Paint Specialty Co., Brooklyn, N. Y. Buyers will do well to send for samples and quotations.

A bill to compel the printing of the formula on the labels of all patent medicines containing poisons was introduced into the Louisiana Legislature last week, but was killed in committee.

The Andress-Meara Wall Paper Company of Cincinnati has made an assignment. Charles F. Andress, the president, died two months ago. Most of the purchases were made in the East.

Mr. William C. Robinson, the popular Houston, Texas, broker in cottonseed products was on 'Change on Thursday last, and says that the drought in the State is too pronounced, even for a Texan.

Mr. R. D. McLeod, vice-president of the Whitney Glass Works, was in town last week, and will hereafter give a greater share of his time to looking after the interests of the company in this market.

Among the business changes which took place on the first of the month was the consolidation of the well-known firms of John Dwight & Co. and Church & Co., of this city, manufacturers of bicarb and sal soda.

St. Philip's Special Remedies Company has been incorporated at Chicago, capital stock, $25,000, to manufacture medicines; incorporators, William J. Clancy, James Grennan and William P. Brady.

The partnership between Malcolm Graham, Jr., and Seton H. Rich, under the firm name of Aquila Rich & Co., has been dissolved. The business will be continued under the same firm name by Malcolm Graham, Jr.

Mr. F. R. McDermott, Chicago, representative of the Nichols Chemical Company, made his appearance at the Drug Trade Club on Tuesday and received the hearty greetings of his many New York friends in the trade.

The partnership under the style of G. P. Couper & Co. has been dissolved by mutual consent. Mr. Couper will continue business in this city as G. R. Couper & Co., and Mr. Jackson in Philadelphia as Ellis Jackson & Co.

Col. J. J. Culbertson of the Paris Cotton Oil Company, Paris, Texas, has been in the city for a few days recuperating from the effects of his trip abroad, where he has been since last April in the interest of his company.

Mr. W. M. Warren, of Parke, Davis & Co., was in town last week en route to some of the New England seashore resorts, where he will recreate for a while. He was accompanied by Mrs. Warren and his normal stock of good nature.

Mr. A. L. Clements has succeeded in establishing an extensive business in linseed oil, due largely to his great personal popularity and his strict adherence to sound business principles. He will remain an important factor in the linseed oil trade of this city.

Mr. H. B. Harding of the Humphrey's Medicine Company will receive the sympathy of the trade in the loss he has sustained by the death of his aged mother, whose illness, which called him to the Provinces some weeks ago, terminated fatally on Thursday last.

The expedition organized by the National Association of Manufacturers to visit the southernly portion of South America, particularly the Argentine Republic, sailed from this port on the steamer St. Paul last Wednesday. Mr. Frederic Stearns, of Detroit, Mich., is one of the party.

Mr. S. A. Budgett, of Messrs. Munro & Co., this city, was a passenger on the steamer Umbria, which grounded in Gedney Channel on the outward trip from this port on the 27th ult. He is accompanied by his wife and will spend a few weeks in England and on the Continent.

Judge Russell of the Supreme Court last week granted an order dissolving the French Mirror Plate Company of this city, with branches at Philadelphia and Chicago, and continuing Frank H. Dyckman as permanent receiver. The company applied for a dissolution in February last.

Mr. Max Fuchs, manager of the sponge department of the Stein-Vogler Drug Company of Cincinnati, was in town last week and sailed for Trieste, where he will pass some time investigating the markets and making purchases of sponges, in which his company makes a specialty as direct importers.

In making brilliant glass in Germany a suitable crystal glass batch is melted together with a silver salt in solid or dissolved condition. This glass is flashed upon glass articles, which are then treated by gases producing a reduction. The silver contained in the glass is hereby reduced on the surface of the glass objects into metallic silver.

Mr. Walter D. Gregory, general manager for Charles H. Gillespie & Sons, varnish makers, sailed last Wednesday on the steamer St. Paul for an extended trip in the interests of the firm through England, Scotland, Belgium, Germany and France. He will spend considerable time at the branch house of Gillespie & Sons at Glasgow, Scotland, which will be his headquarters while abroad.

About 350 ounces of phenacetine and 150 ounces of antipyrine smuggled into Philadelphia last winter and seized by the customs officials there were sold at auction by the government on Monday last. The phenacetine was bought by the representative of Schieffelin & Co., of this city, at 75 cents per box of about three and a half ounces, and the antipyrine by Joseph Bull of Philadelphia, at 80 cents per box.

Commodore W. Townley Case and his pirate crew have returned from the cruise of the Nydia, and Commander Emerson is again in charge of the ship. The party spent a week on the placid waters of the Chesapeake, with an occasional turn outside, and a landing at Old Point, Annapolis and other places. The inexhaustible resources of the larder, and the boundless hospitality of the owner, are the only features of the trip that any of those who participated in it are able to recall.

Following the successful organization of the National Association of Credit men, recently effected at Toledo, the New York Credit Men's Association have decided to make special efforts to secure a considerable increase in the membership of the local association. The officers of the New York Association, which was organized Sept. 19, 1895, and incorporated in January, 1896, are as follows: President, M. E. Bannin; vice-president, F. R. Boocock, treasurer, William Naumburg; secretary, H. J. Sayers.

C. W. Preston, a prominent druggist doing business at Galveston, Texas, under the name of C. W. Preston & Co., assigned last week. Amount preferred, $8,386.42. There was no statement of assets and liabilities rendered. S. M. Penland was made trustee. He will sell the property and collect accounts and claims, and apply the proceeds to paying off the preferred creditors, all of whom are local.

The Salt Union, who had made a communication to the Liverpool Chamber of Commerce on the subject of the duties charged at this port on salt, and to the desirability of their reduction, have been asked for a further detailed statement showing how this port compared with other ports in the matter of dues on salt, and they have been informed that such a statement, if furnished, would be laid by the chamber before the Mersey Docks and Harbor Board, with a request that the question should be reconsidered.

The American Fire Resisting Paint Company, offices at 17 Broadway, this city, and works at Elizabeth, N. J., are making a fire resisting paint that seems to come up to all the claims that are made for it. At the time of the William & Clark Fertilizer Company's fire the two buildings painted with this paint withstood the fire while fourteen others were totally destroyed. This is only one instance of many where buildings have been saved from destruction by the use of this paint. An additional advantage is that the cost of insurance is considerably lessened. The average length of service of this paint is about eight years, so its durability compares favorably with the best paints on the market which do not resist fire. Write the company for literature and quotations.

Much interest is felt throughout the leather trade generally over a preliminary injunction which was recently granted by Judge Colt, in Massachusetts, against John Donallan, of Lynn, Mass., and in favor of the Patent Tannage Company, of Philadelphia. A suit was brought some time ago by this company against Donallan for alleged infringement of their patented chrome tannage process. This process is a mineral tannage, and oxidizes the leather, giving it a peculiarly soft polish. The Patent Tannage Company, which owns the patent, allows manufacturers to use the process upon an initial payment of a license of $2,500, and also the payment of a royalty on all goods finished by it. This royalty is 12½ cents per dozen on goat skins, which are taken as a basis, the amount of royalties on other skins varying

PETROLEUM NOTES.

The holders of territory in the vicinity of the Rosenbery well, west of Parker, are losing no time in starting new work. The initial well is holding up at about 100 barrels a day.

In the Cecil pool the Forest Oil Company is in the sand four bits at its No. 7 Chambers and has a good show for a paying well. This in the farm recently purchased from the Midway Gas Company by the Forest Oil Company for $60,000.

The work of deepening the port of Batoum to twenty-six feet at the naphtha loading stage is now finishing. The mole is to be extended to a length of 1,750 feet, so that the port can serve as a station for the Black Sea fleet in all weathers.

Judge M. W. Acheson, in the United States Circuit Court at Pittsburg, has decided the patent dispute of George Allen against W. M. and J. P. Emery and others, in which an infringement of an improved oil-pumping machine was alleged. Judge Acheson granted the injunction asked for.

The production of naphtha in the Northern Caucasus—Kuban, Ter and Dagestan districts—during 1895 was as follows: Kuban, 21,649 tons; Ter, 45,766 tons, and Dagestan, 34 tons, or a total of 479,347 tons, of which about 435,000 tons were obtained from fountains and the balance from wells. Altogether there were thirty-eight bores.

In the Ogden, Berea grit pool, south of Waverly, the Largey & Co. well on the Little farm is in the sand and showing for 100 barrels a day. The well is somewhat important, being located a little to the southwest in a 45 degree line. Operations in the Ogden pool are very lively and the number of wells nearing the sand will lend additional interest to that development. One dry hole is all that mars its record up to this time.

One of the largest deals in oil recently consummated has been closed between C. D. Greenlee and the United States Oil Company of Boston. Mr. Greenlee has sold his individual interests in the Cecil pool in Washington County and the Ogden pool in Wood County, W. Va., to the big Boston syndicate, for $100,000. The transaction involves leases on 4,000 acres of territory, with twelve wells and a production of 300 barrels a day. Mr. Greenlee organized the United States Company less than a year ago, and is the largest individual stockholder. He was made general manager and will continue in that capacity.

The Carter Oil Company's well on the Livingston farm, between the Wick pool and the Cow Run sand development at Hebron, Pleasants County, is worthy of some consideration. The oil was developed in the Big Injun sand and the production was estimated at seven barrels an hour. At this time the relative position the well bears to other developments cannot be determined. It may show an extension to the southwest of the Bullman development or it may be the forerunner of a separate and distinct pool. As a new discovery it is of considerable importance, and future operations in that vicinity will be watched with interest.

One of the big oil stills in the Eagle Refining Company's works at Cavar Point, Jersey City, on the New York Bay shore, exploded Saturday night, 27th ult., and carried away the roof of the building. A volume of flame followed the explosion and caused a brilliant illumination in the sky. The firemen were unable to do anything to check the flames, but the oil was drawn off from the adjoining stills to avoid danger of the fire spreading. A small 100-barrel naphtha tank exploded a few minutes after the first explosion. The building was badly wrecked. The big still contained 1,000 barrels of oil in process of being refined. The loss on the oil and the still is estimated at $10,000, and on the building at $10,000 more.

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Clarion, as well as Parker, is having a little later-day oil excitement. It is not on a large scale, but it is furnishing some gossip for the old-timers in that locality. A short time since the Riverside Oil Company drilled in a well on the Wood lot, near the Clarion Normal School grounds that is still holding up at 50 barrels a day. The well was drilled into sixty-five feet of good sand, and it has been the incentive for starting a half dozen new wells in that immediate locality. Back in 1888-89 excitement was at a high pitch in that territory, and southwest of this new attraction W. H. H. Piper drilled in a well on the Campbell lot that started at 4,000 barrels a day. About the same time Cadwallader & Leeper drilled a well equal in size on an adjoining lot. The new work now starting is principally to the north and east of the 45-degree line passing through the old development. West of the same line the Riverside Oil Company, a concern by the way, that holds leases on the most of the desirable territory, has made a location on the Rev. Knapp farm, and the Enterprise Oil Company has made a location across the Clarion River on the T. C. Wilson lot. The oil is developed in the third sand at a depth of 1,100 to 1,200 feet, and the cost of drilling a well is not more than $700.

OBITUARY.

John Kerry.

Mr. John Kerry, head of the firm of Kerry, Watson & Co., of Montreal, died suddenly at his residence in that city on Tuesday last. Mr. Kerry, who was in his 71st year, was one of the foremost merchants of Montreal, and was highly respected not only in that city, but throughout the Dominion. He was at one time president of the Montreal Board of Trade, and his long and prominent connection with mercantile affairs had made him known to business circles in all of the Canadian cities, as well as in this country, where his reputation has always been of the highest.

Leander Townsend Savage.

Mr. Leander T. Savage, who for many years has been well known to the chemical trade through his connection with the Martin Kalbfleisch Chemical Company, and the old firm which it succeeded, died suddenly on Tuesday last at his home at Rutherford, N. J. Mr. Savage was at his desk as late as Monday, although he had not been in good health for some months past, but on the following day was stricken with apoplexy, from which he died a few hours later. His death was no less a shock to his business associates than to his family, and is deeply regretted by all of his very numerous friends. Mr. Savage had served in confidential positions with the Kalbfleisches for about twenty-eight years, and had always commanded the most perfect confidence and thorough respect of the members of the firm and its successors. He was a most genial associate, and in his long connection with the trade, had made a very extended circle of acquaintances, who entertained for him a very warm regard.

John Bayley.

Mr. John Bayley, who was for many years connected with the paint trade here, died Thursday last at the residence of his daughter, Mrs. T. W. Richmond, at North Adams, Mass. Mr. Bayley was born at Warwick, R. I., July 20, 1816, and had, therefore, nearly completed his eightieth year. He entered the employ of Raynolds, Devoe & Pratt in 1860, and remained with the Raynolds succession to the firm until about ten years ago. He was widely known, especially in the eastern section of the country, to the paint trade, and was a successful salesman. At one time Mr. Bayley acquired quite a fortune in oil speculations, but the bulk of this was subsequently lost in the same manner. He resided in Brooklyn for more than thirty years, but had latterly made it his home with his daughter, at whose home he died. Some months ago he was stricken with paralysis, and had suffered five strokes, the last of which proved fatal. Besides his daughter, Mrs. Richmond, he leaves one son, John A. Bayley, of this city.

Jules S. Abecasis.

Mr. Jules S. Abecasis, a well-known downtown merchandise broker, who for many years has been prominent in the India rubber market, died at the New York Hospital on Thursday last from injuries sustained by a fall from a bicycle on Monday. Mr. Abecasis was 70 years of age, and while riding his wheel at Broadway and 40th street, was run down by an express wagon. He was thrown to the ground, and so severely injured, that he never quite rallied from the shock.

Insurance Commissioner Merrill, of Massachusetts, has asked the Attorney-General to apply for a receiver for the Commerce Fire Insurance Company of Boston, which was organized about a year ago, and was operated in conjunction with the Elcelsior Mutual Fire Insurance Company of Boston, now defunct. It did a general business throughout the country. The amount of its assets and liabilities is not yet ascertained.

MISCELLANEOUS.

Insurance Notes.

The Boston Board of Fire Underwriters, at a special meeting, voted to increase the allowance made on standard sprinkled risks from 30 per cent. to 40 per cent. The meeting was well attended and the vote was unanimous. Last year a similar proposition, the allowance asked for, however, being 50 per cent., was defeated by a vote of 17 to 7.

The Supreme Court at St. Paul has rendered its decision in a number of suits involving the insolvent National Credit Insurance Company, which, insured merchants against "excess losses." due to the failure of their creditors. These were determined by deducting from such losses 15 per cent., and 1 per cent. of the total sales for the year, not to be less than a stipulated amount. Allen & Marvin took out a policy for a year on a stipulated sale, $90,000, but aften ten months the insurance company assigned, the sales at the time having been but $75,000. The court holds that the excess losses should be computed by deducting 1 per cent. of $75,000, and not of $90,000, and further, that the policy holder was entitled to recover his premiums for the unexpired portion of the year, and all holding such claims are entitled to participate in funds in the hands of the State Insurance Department.

Receiver for Bosshardt & Wilson Company.

Advices from Philadelphia state that a receiver was appointed on Wednesday for Bosshardt & Wilson Company, refiners and exporters of petroleum in that city. The company succeeded to the business of Bosshardt & Wilson, who were the successors of Webster Bros. & Wilson, and was incorporated in November, 1890. It is capitalized at $200,000, and by its own statement, made in March last, had assets of $431,000 against liabilities of $231,000. At the same time it was regarded as rather slow by the trade, and the receivership is not altogether a surprise.

Judgments Recorded.

Following is a list of judgments filed in the County Clerk's office during the past week:

Higgins Soap Company, $2,123, in favor of R. H. Thompson et al.

The Vesey Import and Export Company, $189, in favor of C. B. Granville.

John La Farge, $1,422, in favor of F. W. Devoe and C. T. Raynols Company.

Susan Bentley, $3.47, in favor of F. W. Devoe and C. T. Raynolds Company.

George Borman, $688, in favor of J. C. Wiardi & Co.

United Growers Company, $848, in favor of National Distilling Company.

Patrick A. Dallard, $1,638, in favor of C. DeP. Field et al.

Ralph Raymond, $158, in favor of . Starace.

James Stikeman, $174, in favor of E. P. Thompson.

Anna B. Gibbs, $121, in favor of Kalish Pharmacy.

George Fletman, $433, in favor of Middleton Glass Co.

(Special Correspondence to the Reporter.)

Pacific Coast Trade Items.

San Francisco, June 27, 1896.

Trade is quiet now, and will be so for thirty days. On Aug. 1 the Fall trade begins, which promises to be very good. The Spring averaged up poorly, on account of the painters' strike. While the strike was settled at $3, complaints have been entered that some houses are paying but $2.50 per day, so that it is felt that the troubles are by no means over, and may be reopened at any moment.

The goods of the American Oil Company are to be sold at auction next week by the assignee, J. J. Searle. It is understood that Mr. Low will reenter the business.

In candles there is great competition, and a very active market, both in Eastern and Western brands. Prices are extremely low, as every one is out for business in lively fashion. The mining revival in the State has not increased the coast demand for candles, as the falling off in the silver mines is very considerable.

The new factory of W. P. Fuller & Co. is being rapidly pushed. The structure will be done in about three

IN spreading paint the **cost of labor** so far exceeds the cost of material that the **Best Material only** should be used.

The life of Paint is **Pure Linseed Oil.**

To avoid adulterations buy only Linseed Oil which bears the brand of some well known manufacturer and is guaranteed to be absolutely pure.

The following brands are Guaranteed to be strictly Pure:

Burlington Linseed Oil Works, Burlington, Ia
Crown Linseed Oil Works, St. Louis, Mo.
Close Linseed Oil Works, Iowa City, Ia.
Cedar Rapids Linseed Oil Works, Cedar Rapids, Ia.
Des Moines Linseed Oil Works, Des Moines, Ia.
Dubuque Linseed Oil Works, Dubuque, Ia.
Detroit Linseed Oil Works, Detroit, Mich.
Evans Linseed Oil Works, Indianapolis, Ind.
Emerson Linseed Oil Works, Racine, Wis.
Gilman Linseed Oil Works, Gilman, Ill.
Hall Linseed Oil Works, Chicago, Ill.
Hawkeye Linseed Oil Works, Marshalltown, Ia.
Jay Linseed Oil Works, St. Mary's, O.
Kansas City Lead & Oil Works, Kansas City, Mo.
Leavenworth Linseed Oil Works, Leavenworth, Kan.
La Crosse Linseed Oil Works, La Crosse, Wis.
Mankato Linseed Oil Works, Mankato, Minn.
Missouri Linseed Oil Works, St. Louis, Mo.
Minnesota Linseed Oil Works, Minneapolis, Minn.
Marion Linseed Oil Works, Marion, Ind.
Mansfield Linseed Oil Works, Mansfield, O.
National Linseed Oil Co., Mill, No. 46, Chicago, Ill.
National Linseed Oil Co., Mill, No. 47, Buffalo, N. Y.
National Linseed Oil Co., Mill, No. 29, Logansport, Ind.
National Linseed Oil Co., Boston, Mass.
National Linseed Oil Co., Philadelphia, Pa.
National Linseed Oil Co., Richmond, Va.
Northwestern Lead & Oil Works, Chicago, Ill
W. P. Orr Linseed Oil Works, Piqua, O.
Ottumwa Linseed Oil Works, Ottumwa, Ia.
Portland Linseed Oil Works, Portland, Ore
Sioux City Linseed Oil Works, Sioux City, Ia.
St. Paul Linseed Oil Works, St. Paul, Minn.
Swannell Linseed Oil Works, Chicago, Ill.
Topeka Linseed Oil Works, Topeka, Kan.
Woodman Linseed Oil Works, Omaha, Neb
Wood Linseed Oil Works, Piqua, O.

NATIONAL LINSEED OIL COMPANY, Chicago.

months. The size will be about the same as the last one, with a considerable number of latest improvements. The regrinding of the lead is now in progress.

Included in the domestic receipts this week are: The San Francisco Candle Company received one car of rosin; Hass Bros., 24,000 pounds of candle; Magner Bros., one car paint; Standard Oil Company, one car of refined oil; George Partridge, seven cars of oil; W. P. Fuller & Co., one car white lead, and Gates & Co., one car white lead.

Hugh Tevis, of the firm of Coburn, Tevis & Co., is in New York and Philadelphia on business. He will be gone six weeks, returning by Chicago. C. W. F. Coburn of the same firm has just returned from an extended trip through Montana, Idaho and the Northwest. He reports the conditions in the Northwest as only slightly improved over last Spring.

G. L. Gates, manager of the National Supply Company, handling Los Angeles oil in this city, is quite ill.

Nelle & Engelbrecht of Seattle, Wash., received last week a full carload of glass from Pittsburg, Pa., and a carload of paints and varnishes from New York.

The Painters' Union of San Francisco elected this week the following officers: L. A. Coffin, president; A. M. Beach, vice-president; F. Busse, recording secretary; C. F. Easting, financial secretary; V. McAvoy, treasurer.

The Buena Vista Petroleum Company, whose works are located at Asphalot, Kern County, Cal., has levied an assessment of $1 per share, payable July 3.

A syndicate headed by Charles Sontag of San Francisco, has obtained leases on about 1,000 acres of land in Contra Costa County, on which they believe oil of a first-class quality can be obtained.

Los Angeles parties have just made a successful strike of oil on the land of Capt. Barret of Selma, at Coalinga. The well was down about 800 feet when the flow began. This is the third well on this section. Machinery is being sent up from Los Angeles.

The trial of the case of the Standard Oil Company against the City of Oakland is still in progress. The company wishes to erect a tank in a certain portion of the city, and has been refused permission.

The Varnishers and Polishers' Union of San Francisco have elected the following officers: President, William Gage; vice-president, E. M. Dates; recording secretary, H. Coen; financial secretary, Daniel Murphy; treasurer, A. Brucker; sergeant-at-arms, John McCloskey.

The Estes-Crain Drug Company of Cathlamet, Wash., has been dissolved and a new company formed under the title of Estes-Conn Drug Company, with a capital stock of $15,000.

Control of the California Natural Gas, Oil and Lime Company has passed into the hands of Charles W. Bowe, who will sink the oil well at Half Moon to a depth of 1,200 feet.

F. M. Smith, president of the Pacific Coast Borax Company, returned home to-day from London. He has completed a deal, involving several million dollars, and the doubling of the borax output of California. Says Mr. Smith: "I have come from London to close arrangements in California for the floating of a new company organized in England. The organization of this company will absorb an English chemical company, a very large portion of the output of our California borax mine. We will build a large refinery, probably at Liverpool, to which the raw borax will be shipped from California. I will hold the control of it, and the headquarters will be on the Pacific coast. The deal involves something over $2,000,000. ALLEN.

Decision on Acid Magenta.

In the case of Read, Halliday & Sons, Limited, against P. Schulze-Berge, Victor Koecal and August Movius, for infringing patent 250,247, granted Nov. 29, 1881, to John Halliday, and duly assigned to complainant, has been decided by Judge Townsend of the United States Circuit Court for the Southern District of New York, in favor of the complainant. He directs that a decree be entered for an injunction and an accounting.

This decision has been expected for several months, and will be read with interest by the trade. The Judge says:

"The claim in controversy is the first, which is as follows: 'The sulpho-conjugated compound of cosaniline, possessing the properties specified, as a new article of manufacture. In Halliday vs. Pickhardt, the patent was considered by Judge Blatchford, and on final hearing by Judge Wallace, who sustained the validity of the patent after protracted litigation and thorough examination. The new evidence introduced on this hearing does not affect the validity of the patent in suit. Counsel argued on the following statements: 'The Halliday patent includes those homologues, as for instance, C 19, C 20 or C 21, which were known at the date of the patent; the body C 22 is such homologue, and if known at the date of the patent would have been included therein; the Epting patent process is the process of Halliday applied to the rosaniline known as C 22, without any change in said process or the result.'

"It was found by Judge Wallace on the former hearing that the claim in suit is a 'valid claim for the real invention of Haliday,' that 'it can be recognized as such from the description of the process for making it,' and 'the product can be identified by the characteristics specified' in the patent. Defendants' body, so far as appears from said charcteristics, and by certain other tests used in the arts, is an exact technical equivalent of the patented body. Defendants' body is commercially known as new acid magenta, and is sold as the equivalent of complainant's acid magenta. These facts show at least a prima facie case of infringement.

"Infringement is denied for the following reasons. First, defendants' body, called C 22, was neither described nor isolated as a chemical individual until after the date of the patent in suit; second, certain tests, not specified in the patent, show different results when applied to the two bodies. But Judge Wallace has found that these tests of this patent are sufficient to identify the patented product. The application of these tests to the defendants' body is sufficient to show what the Supreme Court in the Badische case calls 'the identity in the sense of the patent law between them.' The defendants must, therefore, be held to infringe, at least, unless they can show that the bodies were produced from different starting materials.

"The first question is whether defendants' product is C 22, or only a mere mixture. The alleged infringing product is produced from tri-arrido tri-orthotolyl carbinol, which is known as C 22, or the fourth body of the following series of rosanilines, C 19 para rosaniline, C 20 methyl para rosaniline, C 21 di-methyl para rosaniline, and C 22 tri-methyl para rosaniline. The complainant claims that defendants' color is not C 22, but is a mixture of probably C 20, C 21 and C 22. I shall assume that it is C 22.

"The next question is whether defendants' product, C 22, is identical with or the equivalent of the patented products, which include C 19, C 20 and C 21. By the stipulation between counsels, it is agreed that it is a homologue of the patented products, and would have been included in the patent if known at the date thereof. The briefs of counsel are largely devoted to the doctrine of unknown equivalents. Counsel for defendants contend that the claim for the patented product does not cover a body having substantially the same qualities, but produced from a subsequently discovered starting material. Whatever questions may arise in other cases, there does not seem to be any difficulty in the application of the law to the facts of this case. That a patentee must clearly conceive and accurately state his invention or discovery, and that he cannot throw a monopoly of the whole art, nor by a speculation include unknown elements within the limitation of his claim, is well settled. The primary or secondary character of the patent determines the scope of such claim and the range of equivalents.

"In this case Halliday discovered a process of converting rosanilines into bodies capable of dyeing in an acid bath in admixture with other colors, and patented the product. The defendants use the same process and obtain the same product from a body belonging to the same class, a homologue of complainants' bodies. If the doctrine of unknown equivalents is to be applied, the patentee cannot embrace this body among the rosanilines of his patent unless it was either so commercially known as to be included under said term, or so chemically known that no experiment was necessary to discover its equivalency. But the admissions of defendants' experts, Woltereck, Homolka, Laubenheimer and Chandler, show that C22 was known and used before the date of this patent; the French patent of Croupier of 1866 and his published researches give processes for producing it, and the C22 produced by following the Croupier process was the same as that of defendants'. Furthermore, a French patent, granted to John Halliday in 1866, indicates that he was familiar with the properties and actions of this whole class of rosaniline colors. The utmost which defendants can claim, in view of this testimony, is, that while C22 was known, it had not been isolated as a chemical individual. It is admitted that the substitution of C22 for the other rosanilines does not involve any alteration or inventive skill.

"Various questions containing the doctrine of unknown equivalents have been forcibly pressed upon the attention of this court in this case and in Mathison vs. Campbell supra. It seems to be the duty of the Court to state its views on this subject. That the discoverer is protected against equivalent ingredients known at the date of his patent is settled. (Numerous decisions are quoted.) Subject to this rule there is some conflict of authority as to whether the first discoverer is protected against subsequently known equivalents. Most of the earlier cases hold that he is not. The later cases hold otherwise, or state the rule with qualifications. (Here is quoted section 354 from Walker on Patents, third edition, which is the rule. We quote a part: 'It is, therefore, safe to define an equivalent as a thing which performs the same function, and performs that function in substantially the same manner as the thing of which it is alleged to be the equivalent.')

"The apparent conflict in the decisions arises from the distinction between the application of the doctrine of equivalents to primary and to secondary invention, and from the difference between the old and the new rules, as to what constitutes an invention. In the light of the later decisions on this subject, I think the law must be that where the new ingredient is such as would have been known to or employed by the ordinary, skilled, practical chemist, or is such as would naturally have been developed in the growth of the art, and the substitution thereof involves no alteration or new operation or result, it is caused by the patent, provided the specifications and claims are sufficiently broad to include it. If, on the other hand, the development of the new ingredient required the exercise of the creative or inventive faculty, and certainly if its introduction causes some novelty in function or result, it would not be an equivalent. The conclusions reached by Judge Robinson support these views. In the case at bar, the defendants' body is a mere substitute; C22 is the next succeeding homologue of C19, C20, C21. It existed in the arts; was referred to in the literature; the patented process of Croupier was capable of producing it. The defense is supported solely by the fact that the description of the body, with all its properties, and the process of preparing it in a chemically pure state, was not known until the year succeeding the grant of the patent in suit. The defendants have discovered nothing. They have taken the C22, existing prior to the patent, but first isolated and described by Rosenstiel and Gerber in 1882, subjected it to the process described in the patent, and obtained the patented product. Whatever may be the scope of the doctrine of unknown equivalents, it should have no application to this case. Counsel for defendants lay stress upon certain statements in the opinion of this Court in Matheson vs. Campbell, as supporting this claim. But there the facts were very different. The patent contained a general formula, covering at least a hundred different bodies. It was shown that very many of these bodies would not produce the patented product. The patent also contained a special description of the newly discovered process to obtain the patented product. Counsel for complainant, having sought to expand the claim so as to appropriate the bodies of the general formula, the Court held that that could not be done, and that the patent must be limited to the bodies of the special processes. Here the body C22, if known, would be properly included in the claim. It does not appear that at the date of the patent experiment or discovery was necessary in order to determine its reactions. In the Matheson case the questions were whether the whole patent was invalid by reason of the uncertain general formulas, and whether the claim was limited to the special example. Here the question involved is, whether a patentee may protect, or an infringer appropriate, a discovered, described, existing element, not isolated at the date of the patent."

Lead and Zinc Deposits of Iowa.

BY A. G. LEONARD.

Lead has been mined in Iowa ever since Julien Dubuque in 1788 obtained from the Sacs and Foxe Indians a lease of land for mining purposes, and commenced operations near the site of the city which now bears his name. It was not, however, until about 1833 that settlers were free to take possession of the much-coveted territory. Soon after this date large numbers of miners flocked into the State, prospecting was actively carried on, and many mines were opened. The most productive period of the Iowa mines was probably during the years 1835 to 1849.

It was not until 1860 that Iowa zinc came into the market, and since then the production of this metal has rapidly increased. During the ten years 1872 to 1882 the output of zinc more than doubled that of lead, while in 1889, according to the United States census, the production of the mineral was in the ratio of 13 to 1 for the entire region. The principal ore of zinc now shipped from the Iowa mines is the carbonate or "dry bone" of the miners. Until some thirteen years ago this material was thrown away on the dump piles. In the fall of 1880 two wagon loads were taken to Benton, Wis., and sold for $16 a ton. So far as known this was the first zinc ore marketed from the mines of the State, and from this time on the carbonate has been marketed in rapidly increasing amounts.

The Iowa lead and zinc deposits occur in the northeastern corner of the State, and form part of a large area known as the Upper Mississippi lead and zinc region, as distinguished from the Lower Mississippi or Missouri region. The Upper Mississippi area has a length east and west of ninety-six miles and a width north and south of fifty-five miles, embracing the southwest portion of Wisconsin, northwest corner of Illinois and adjoining parts of Iowa. This region, embracing some 3,000 square miles, lies wholly within the limits of the driftless area. The geologic formations all belong to the upper and lower Silurian, and the ores are confined to certain members of the latter, namely, the Galena and Trenton limestones. The strata have been practically undisturbed, and show no evidence of having been subjected to powerful dynamic forces, nor of having been affected by igneous intrusions. It is true that slight anticlinal fods exist in the region, but these are of minor importance, and have not given rise to profound fissures or faults.

The minerals appear to have been originally thrown down as sulphides along with the limestone. They have subsequently been leached out by surface waters and have been deposited in the crevices by lateral secretion.

The beds have a gentle dip to the southwest, so that in ascending the Mississippi the lower members of the series are successively met with. Over most of the area the Galena limestone forms the country rock, and in it occur most of the lead and zinc deposits of the State. Overlying the limestone are the soft and easily decomposed Maquoketa shales, which have been largely removed by erosion. The Galena rock is a heavily bedded and nearly pure dolomitic limestone, coarsely granular and filled with numerous small cavities. Many of the beds have a thickness of 7 ft. and more, ranging from this to thin, evenly bedded layers near the top. Where fully developed, as at Dubuque, the formation has a thickness of 250 ft.

The lead and zinc deposits are found in crevices in the Galena limestone. The strata of the region are cut by fissures of greater or less extent and in the expansions or "openings" of these the ores occur. There is a very noticeable uniformity in the general direction of the crevices, the great majority and all of those which carry the large ore bodies having an approximately east and west course. A less important set of fissures bear north and south; the fissures are narrow, without any true openings, and in them the ore occurs without exception in vertical sheets.

The characteristic feature of the east and west crevices is the openings. These are widened by a process of decomposition and solution of the limestone in these particular layers and serve as channels for underground drainage and have thus in many instances been greatly enlarged, and are usually inclosed by several strata, whose rough edges form an irregular wall on either side. At the surface the fissure commonly appears as a mere seam or crack in the rock, which when followed down is probably found to contain little or no mineral until it suddenly widens out into the space where the ore, if anywhere, will be found. These openings vary greatly in dimensions; in height from a few feet to 40, and in width from a few inches up to 20 and in rare cases even to 40 ft. They are usually limited above by the "caprock," a hard and persistent layer of limestone 4 ft. in thickness. A crevice does not widen out into a single opening only, but into several, one below another, called, in descending order, first, second, third and fourth openings. The upper opening, found 45 to 50 ft. below the Maquoketa shale, is usually the main and most productive one, while the lower are smaller and contain less clay, the ore in them being therefore clean and bright.

In these openings the lead and zinc ores occur either pure or mixed with more or less of clay and fragments of rock, and often attached to the top and sides of the cavities or fallen to the floor, where they lie partially buried in clay. The Galena is frequently suspended in large masses from the roof and extending up into the crevice in the cap rock. The zinc carbonate, besides lining the crevice, is also found in large, loose masses, nearly filling the opening and coating the rock fragments.

A very noticeable feature of the Iowa deposits is the manner in which the lead and zinc occur concentrated at certain points into ore bodies. The crevices are not productive throughout their entire length, but only here and there, where for some reason the conditions have been especially favorable for the concentration of the minerals. It may be that quartering crevices or a north and south fissure intersect the main one at such points and have brought in the waters from which the ore was deposited. At any rate, these ore bodies frequently occur where several crevices cross. In a great many cases also they appear to accumulate and 'make back," as the miners say, from some obstruction in the crevice such as "key rock." These concentrated masses of mineral do not usually extend more than 200 or 400 ft. in horizontal length, though they may occasionally go 800 or 1,000 ft. The crevice, on the other hand, may be and often is several miles in length.

The lead and zinc deposits of the State are confined mostly to the upper part or the Galena limestone, comparatively little ore having been mined from a greater depth than 100 ft. below the Maquoketa shale. Both lead and zinc frequently occur in the same opening, though they are not usually intermingled, the zinc occurring a short distance beyond the lead. Where the ores are mixed their amount is small.

In working the Iowa mines the very simplest methods and inexpensive machinery are used. Only a few of the shafts have reached a depth greater than 200 ft. and the most common method of hoisting is the windlass, though in the larger mines a gin is used, which consists of a large wooden drum, 6 to 8 ft. in diameter, revolving in a horizontal plane and turned by a horse. The only steam hoist in the Dubuque district was recently put in by the Dubuque Lead Mining Company. The company also has a steam pump, by which the water has been so lowered that ore is taken from one of the lower openings.

One of the largest zinc mines in the State is worked in an open pit which extends entirely through the hill, with a width of 40 ft. and a depth of nearly 80 ft. The following is a list of the principal lead and zinc mining companies of the State with a brief description of some of the mines:

Dubuque Lead Mining Company, of which A. W. Hasford is president and C. T. Goldthorp superintendent, has a mine one mile west of Dubuque which has been worked for about a year and a half, and employs 75 men. The three shafts are 210 ft. deep, with steam hoist on one and gins on the other two. The company has just erected an ore-dressing plant at the mine because much of the Galena occurs scattered through the rock. The ore-bearing dolomite forms a zone from two to four feet wide and contains an abundance of iron pyrite and Galena which also occurs in large masses, composed of cubes, in what is probably the fourth opening. One hundred thousand pounds of lead ore have already been raised.

The Lansing Mining and Smelting Company, J. H. Trewin, president.—The mine of this company, which was discovered in 1891, is located in Allamakee County, about five miles northwest of Lansing, in the Oneota limestone. This is the only instance, so far as known, in the entire Upper Mississippi region where an extensive lead deposit occurs in this bed or any below the Trenton formation. This deposit is also remarkable in being a vertical sheet in a north and south fissure, for while crevices in this direction are not uncommon in the State they are usually of limited extent and do not contain large bodies of ore; yet this sheet of mineral has been followed 1,000 ft. horizontally, and the main body has a vertical extent of 25 to 30 ft. and a width of 3 to 4 in. The output of the mine since its discovery has exceeded 500,000 lbs. of lead ore and in the last two years 250,000 lbs., though during the past year little ore was raised, on account of the low price of lead.

Dubuque Zinc and Lead Mining Company, E. T. Goldthorp, superintendent.—The principal mine operated by this company is worked by an open cut, at Durango, five miles northwest of Dubuque. Several east and west crevices are exposed here, and in these the zinc carbonate is most abundant, but the ore also occurs mixed all through the limestone, which has been cracked and broken into fragments of all sizes. The larger masses of the deposits are blasted and the smaller ones loosened with the picks, the ore broken from the rock, the waste material carted to the dump, while the ore, mixed with more or less sand and small rock fragments, is taken to a neighboring stream, where it is washed to free it from all sand and dirt, and hand picked. During the past season 18 men were employed at the mine, producing daily from 15 to 18 tons of ore, equivalent to about 2,500 tons in six months, which is probably about the annual production of the mine for the last few years. The following companies own and operate zinc mines in the city of Dubuque: Trueb, Southwell & Co., James Hird & Son, Howe, Alexander & Sellers Mining Company and Dexter & Hird.

The mines of these companies have all been closed for nearly two years on account of the low price paid for the zinc carbonate, the average being only $5 to $6; about 800 tons were, however, sold at these figures. There are large quantities of ore in sight in these mines, and they are capable of yielding thousands of tons for several years to come.

In addition to the above, Royce & Company and the Key City Mining Company are operating lead mines near Dubuque.

All of the zinc carbonate from the Iowa mines is bought by Mineral Point, Wis., smelters, where it is used in the manufacture of paint. The price paid has advanced somewhat within a few months, with prospects of a still further rise. Until the past year or two the "dry bone" has brought from $12 to $18 per ton, according to the quality.

Most of the lead ore from Dubuque district is sold to W. G. Waters, whose smelter is a short distance south of the city, but that from the Lansing mine is sent to Chicago to be smelted. The price of lead ore is also low at present, being worth only $17 per thousand pounds, when formerly it was worth $20 to $22.

The output of the Iowa mines for the year 1895 can be given only approximately at about 700,000 lbs. of lead ore and from 3,000 to 3,500 tons of zinc ore. The zinc mines have, however, been closed during the greater part of the year. They are easily capable of yielding from 8,000 to 10,000 tons of ore annually.—Engineering and Mining Journal.

Latest Patents.

562,437.—MANUFACTURE OF WHITE LEAD. Filed Nov. 24, 1893. Issued June 23, 1896.

562,,517.—COTTONSEED DELINTER. Filed Jan. 16, 1896. Issued June 23, 1896.

562,576.—OIL-BURNER. Filed July 30, 1894. Issued June 23, 1896.

562,602.—OIL WELL PUMPING POWER. Filed Oct. 22, 1895. Issued June 23, 1896.

562,670.—SWEETENING OILS. Filed Nov. 22, 1895. Issued June 23, 1896.

562,678.—MACHINE FOR GRADUATING GLASSES OR TUBES. Filed Jan. 13, 1896. Issued June 23, 1896.

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Complete prices current will be found on page 35

FRIDAY EVENING, July 3, 1896.

The Spring trade is about done, and, although it had nothing about it of the speculative features that were prominent in former years, there has, nevertheless, been a good business in all staple lines. In most of the larger cities there has been a good deal of new work going forward which required a good deal of paint to complete, but in the country there has been a smaller consumption than usual, owing to the poverty in the agricultural districts following low prices for crops. Manufacturers have devoted a considerable part of the past week to semi-annual stocktaking, but their inventories show smaller supplies on hand than usual. The continued depression in business has compelled manufacturers to limit their output, and at the end of the Spring trade none of them find themselves overburdened with stock. Jobbers also have bought sparingly, with due reference to the diminished needs of consumption, and they are not carrying large stocks at present. The unsettled financial situation and the evident detemination of free silverites to carry their point at the fall elections causes much uneasiness in manufacturing and business circles generally, but the hope is generally expressed that the outcome will not be prejudicial to the welfare of the people.

White Lead, Zincs, Etc.

WHITE LEAD.—Since the month opened a slight improvement is noted in the jobbing demand to meet current requirements. Beyond this trade is slow. This, however, is not unusual at this period of the year. When general outdoor work is suspended during the hot weather, dry lead is only wanted in a limited way with prices held steady at 4½c., less the usual discount. Foreign makes of lead in oil are held steady at the recent advance, though the demand is not at all urgent, especially for prompt delivery. There are now and then inquiries in the market for stocks to come forward early in the fall, but these are not of sufficient magnitude to cause any disturbance in what may be called a dull and uninteresting market. For old established brands of imported agents are still quoting 6¾@7c, and for makes less well known 6@6¼c., as to bond and size of the order. No change has occurred in the price of domestic, the National Lead Company keeping to the following: "We quote, subject to change without notice, our brands of white leads, dry or in oil, red lead and litharge in kegs, in lots, or lead and litharge in kegs, in lots of 500 lbs. and over, 5¼c.; red lead and litharge in barrels and half barrels, ¼c. per lb. less than the price in kegs; white lead (cases), 1c. per lb. over price in kegs; white lead in 25-lb. tin pails (packed in 100-lb. or 200-lb. cases), 1½c. per lb. over price in kegs; white lead, assorted in 1-lb., 2-lb., 3-lb. and 5-lb. cans (packed in 100-lb. cases), 1½c. per lb. over price in kegs. Terms: On lots of 500 lbs. and over, 60 days, or 2 per cent. discount for cash if paid within fifteen days from date of invoice f. o. b. at New York. Special prices for dry white lead in barrels. Quantities: To make either of above assorted quantities and assortment of packages either or all of the above articles may be counted. The above prices and terms offered by this company."

RED LEAD.—Not much of interest has transpired since our last review. What little trade there is in progress is of a retail nature to meet current demands. Now and then an order comes along for car lots for delivery over the fall months. Foreign makes are held steady by first hands at the recent advance and prices may be called steady for spot and nearby delivery at 5⅜@5½c., as to brand and quantity; but from second hands a slight concession is made as to the size of the order. English is dull, but held steady at 5¼@5¼c., as to brand, quantity and date of delivery. Domestic is meeting with the usual jobbing demand at 5c. and upward, less the usual discount as to quantity and place of delivery.

LITHRAGE.—The stoppage of many of the large rubber factories, as noted in our last, as might be expected, has caused a falling off in the demand from this quarter. The demand from the glass trade is also beginning to fall off, as many of the large factories already have shut down for the Summer. A fair business, however, is being done for delivery over next fire at regular prices, which range from 4¼@4⅜c., as to make, quantity and place of delivery, less the usual discount. English glassmakers' grades are held steady at 6⅞@7c. for extra and 5@5¼c. for ordinary grades, as to brand and quantity.

ORANGE MINERAL.—There is a good jobbing demand for French, both for arrival and for spot parcels. Values remain steady at the recent advance, at 8⅝c. for arrival and 9c. on the spot. German is without special feature, though prices, in sympathy with the foreign markets, are held steady at 6⅛@6¼c., as to brand, quantity and date of delivery. From second hands, however, a close buyer will find no trouble in shading these figures upon a prompt offer. Domestic is meeting with the usual jobbing demand at 6½@6¾c., as to quantity, less the usual discount.

PIG LEAD.—During the past few days a fair business has been done in July and August deliveries at 3.05c., and September at 3.07½c. for common. The market for prompt delivery is dull at 3.02½@3.05c. for common and 3.07½@3.10c. for refined, as to the size of the order.

ZINCS.—The deliveries of domestic upon regular contracts for the past month were much better than manufacturers were led to suppose at the opening of the month. The export trade has also been good, thus relieving the market of surplus stocks. Values remain unchanged at 4@4½c. for jobbing lots and contract lots at ¼c. less. French at the moment is quiet. Values, however, remain steady at 6@8½c. for dry, and 8½@10¼c. in oil, as to the size of the order.

Dry Colors.

CARMINE.—The demands of consumption, as usual at this season of the year, are light, and we only hear of small sales to go at once into consumption. The market is still somewhat unsettled, prices depending on the seller, but there has been no quotable change since our last. For bulk $2.25 will still be accepted by some sellers, but others want to $2.65@2.75, as to quantity. The usual advance is asked on small packages in both instances.

VERMILION.—In a jobbing way a moderate amount of business is being done, but buyers show no disposition

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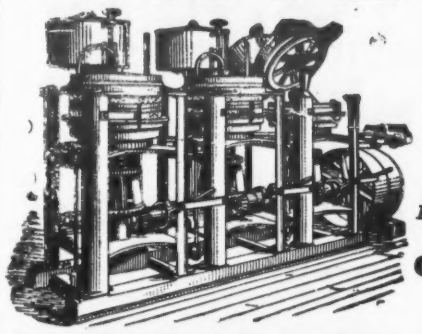

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to anticipate requirements. In the absence of important demand prices are somewhat nominal, but there has been no quotable change. The nominal quotations are 54@56c. for bulk, as to seller and quantity, while for small quantities relatively higher prices are asked. Imported English is moving out slowly on small orders, but prices remain steady at 65c.@$1.50, as to quantity, quality and brand. Chinese is dull and nominal at 70@75c. For artificial vermilion the nominal quotations are 10@22c., as to quality and size of order.

VENETIAN RED.—The demand for consumption appears to have been satisfied, and we have heard of little business, either on the spot or to arrive, since our last. Prices for imported English are steady and unchanged, though varying somewhat as to quality. For the better kinds we quote 1½@2c., and for the medium and lower grades, 1@1¼c., as to quality. Domestic is held steadily at 1½@1.65c. for the finer sorts and .50@1c. for off qualities, as to grade and size of order.

BLUES.

PRUSSIAN.—The requirements of consumption at present are light, and we only hear of small jobbing sales. Prices are somewhat irregular, owing to strong competition, but there has been no actual change in quotations since our last. The nominal prices are 30@33c., but in a large way this might be shaded.

CHINESE.—The demand is of a moderate jobbing character, the wants of buyers at this season being light. The market is fairly steady, and prices are unchanged. We quote nominally 32@35c., as to quality and quantity.

SOLUBLE.—There is a very fair demand, but most buyers are being supplied through deliveries on orders placed some time since. Manufacturers have no surplus stocks; in fact, they are barely able to turn out a sufficient quantity of stock to make necessary deliveries promptly. The market is firm and unchanged, the general quotations being 32@35c., as to quantity and grade.

BLACKS.

LAMPBLACK.—There is a very good demand from the home trade, and the export demand is about up to the average. Competition keeps the market somewhat settled, but prices are not quotably lower. We continue to quote 3@5c. for commercial, 6@10c. for medium and 10@18c. for refined. Extra grades are held at higher figures, some kinds commanding 30c.

CARBON.—The tone of the market is firm, but we hear of comparatively little business. Prices are steady at 6c.

BROWNS.

There is a moderate jobbing demand for both sienna and umbers, buyers taking only what they want for present use. The market is steady, and prices are without quotable change.

GREENS.

PARIS GREEN.—There is little demand from distributers, who seem to have all the stock they need for the present. The market is rather easy, but there has been no further change. The general quotation is 11c., but we understand that this is being shaded in some instances. In other greens there is the usual light jobbing demand incident to the season.

YELLOWS.

Buyers' wants are small at the moment, and there is no inclination shown to provide for possible future needs. Consequently the market presents a very quiet appearance. The feeling is steady, however, and prices are unchanged.

Miscellaneous.

BARYTES.—Trading has been on a moderate sale, scarcely exceeding jobbing proportions. The market is unchanged, the prices remaining at $17@18 for No. 1 German, and $15@16 for No. 2. Domestic is held at $15@16 for No. 1, $12.50@13 for No. 2 and $9.50@10 for No. 3, as to quantity and seller.

CHLORIDE OF BARIUM.—The wants of consumption are small and prices remain somewhat nominal at $35 per ton on the spot and $33@34 to arrive, as to quantity and position.

CHINA CLAY.—Dealers continue to report a light demand to supply current wants, and there are no features of special interest in the market. Prices are without change, but are more or less nominal. We repeat our quotations of $15@17 for the better grades and $10@12 for lower qualities, according to quantity and grade. Domestic is without change, either as regards prices or demand.

COBALT OXIDE.—There is very little demand for either prompt or forward delivery, and the price remains nominal at $1.60 spot or to arrive.

FULLER'S EARTH.—There is no change in the situation. The demand for both home and export continues light and is supplied at 70@75c. for either lump or powdered in bags and 85c. in barrels.

CHALK.—There has been more interest shown by whiting manufacturers of late and they have taken some 5,000 tons for July-August sail shipment at $2@2.10.

MANGANESE OXIDE.—Buyers' wants appear to be limited and we hear of no business of consequence. Prices are nominal and unchanged at 3@5c. per pound for powdered and $15@17 per ton for the ore.

TALC.—Only a moderate jobbing demand is reported, buyers showing no disposition to anticipate requirements. The steady tone of the market is maintained and we continue to quote 75@85c. for ordinary French, 95c.@$1.25 for medium and $1.40@1.60 for the finer grades, as to quality and quantity. Extra fine floated is held at 6c. per pound. Domestic remains quiet and unchanged at 55@60c. for No. 1 and 40@45c. for No. 2, as to quantity.

TERRA ALBA.—The demand continues moderate and of a jobbing character. Prices have not changed, but are somewhat nominal. We quote English at 75@80c., French at 70@80c., French of domestic grinding at 60@65c. and No. 2 American at 45@50c., according to quality and size of order.

PUTTY.—Little business has been reported in this article during the week. Prices vary according to quality, but for the best grades the general quotations are $1.40@2.25, as to quantity and package.

WHITING.—There is little inquiry for forward delivery, and the demand for spot stocks is wholly of a jobbing character. There has been no change in prices, the nominal quotations for jobbing lots being 40@45c. for commercial and 50@55c. for gilders', as to quantity. In a large way these figures are shaded.

Glues.

The market remains very dull, buyers not being in need of supplies and evidently looking for lower prices later on. The tone of the market is somewhat unsettled, but as yet there has been no quotable change.

Glass.

WINDOW.—The small business which is now being transacted in window glass is at firm prices. Local jobbers, though fairly well supplied, are not inclined to offer glass, except at full figures. Imports have recently fallen off considerably, and there is no longer a fear that, in the near future, at least, values will be affected here by the presence of large quantities of foreign window glass. According to the general expression among the jobbers, there is no probability that business will improve before the middle of August, when the demand for Autumn requirements sets in. Meanwhile, prices continue steady, at 75@70, and 10 per cent. off on imported and 70 and 10 and 70.10 and 5 per cent. on American.

PLATE.—No improvement can be reported in the market for plate glass. Trading continues restricted to lots required for immediate use, which are very small, and, as consumers are well

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supplied for the present, not much real activity is looked for before the opening of the Fall season. We quote the market steady at 75 and 10@80 per cent. off the list, according to quantity and holder.

(Special correspondence to the Reporter.)

Pittsburgh Glass Market.

Pittsburg, July 3, 1896.

The demand for window glass continues of fair proportions, though large dealers show more or less hesitation in placing their orders, pending the meeting of the Democratic National Convention at Chicago next week, and the enunciation of the policy of that party on the economic questions of the day. While most people regard the programme to be adopted on the occasion, in respect to financial matters, as already practically settled, they are waiting for the official pronouncement on the subject, and until that is promulgated business men are apt to confine their operations closely within the requirements of their needs. Once the issues are drawn, however, there is certain to be an immediate improvement in the glass trade, as well as in others, for many projects that have been held in abeyance will then go forward without further delay. The local and Western manufacturers are holding pretty large stocks now, but no more than they believe they will have call for before blowing is resumed. The Window Glass Workers' Association holds its annual meeting here the coming week, and one of the most important points to come up before it for consideration is the demand for a reduction in wages made by the manufacturers, which the latter say they will insist on, as rendered necessary by the comparatively profitless results of the last fire. The workers are not likely to agree to this without a struggle, and upon the staying powers of the contending parties, or either of them, depends the duration of the shutdown after Sept. 1, if they should fail to come to an agreement before that time. Though the Pittsburg Window Glass Company has extended the time limit of its existence, and the Western Window Glass Company has followed suit, there is a strong impression among those conversant with the situation that the combinations will not be maintained, at least in their integrity, after October, and then it may be an open market for everybody. Those who have studied up the matter claim that there will be a secession amounting to at least 40 per cent. of the working capacity, and that with such a break the "combines" could, of course, be no longer maintained operative. There has been no change in discounts, but a reduction is expected to meet the recent advance in imported glass.

The demand for plate glass was reasonably fair in June, but has not yet come up to the point expected earlier in the season. There are considerable stocks in the hands of manufacturers, but they are looking forward to a large trade when the season advances a little further, and some are even speculating on the probability of having to increase their output soon. The East continues to lead in the trade, as it has done all season. The demand from the West is, and has been, disappointing, but it is generally late there, and may pick up in course of time.

The season for the operation of the prescription glass factories has been extended to July 15, after which all the union houses will close for two full months. Prescriptions are still in slow demand, and there are abundant stocks on hand, but, in view of the fact that differences exist between the manufacturers and workers, which may prove very difficult of satisfactory arrangement, the indications now are for a prolonged period of suspension, which would make quite a clearance of present accumulations, and give an upward impulse to prices, which have been unprecedentedly low during the last six months.

The Effect of Sunlight on Petroleum.

The experience of R. A. Ostreijko with regard to the acid process in refining leads him to conclusions contrary to those expressed by Charitschkow, oil refined in this manner having a more agreeable odor, and being less inclined to become cloudy, absorb air, and oxidize than when the alkali method is practiced. This is due to the removal by the acid of the substances from which the petroleum acids are formed. More exact experiments show that well-refined oil on exposure to the air becomes at first lighter in color, up to a certain limit, after which point it begins to darken again, the extent of the initial transformation being in one sample of Russian oil examined, 18 mm. in ¾ hour (measured by Stammer's colorimeter). Further tests were made with Baku oils examined at intervals, and stored in the dark, when the color (initially 12 mm.) registered 152 mm. The next day the register was 115 mm., and receded to 106 mm. in another 24 hours, although protected from all light. Air was found to be absorbed throughout the whole period. Sun bleaching is therefore an unsuitable process for Baku oils.

The influence of various shades of glass on the alteration of the color of the oil was also studied. Starting with an initial color degree of 115 mm. Stammer, it was found that the maximum decoloration was reached between 3 and 9 hours, after which darkening set in, with the following comparative results as to the color at the end of 43 days' exposure:

		Deep Orange. Mm.	Orange Yellow. Mm.	Green. Mm.
Color in mm.	Stammer....	75	26	21
Acidity	.....	0.06	0.33	0.45
		Pale Green, Mm.		Colorless Blue. Glass. Mm.
Color in mm.	Stammer.....	9	7	6½
Acidity	.....	7.71	2.7	3.6

the initial acidity having been in each case 0.03.

With regard to the absorption of air by crude and refined petroleum, oil of sp. gr. 0.855 at 28 degrees C., from a well at Balakhany, absorbed air rapidly at first, and in 10 days the whole of the air in the eudiometer tube employed for the experiments. The decreased absorption in the later stages being probably due to the presence of gaseous hydrocarbons or water vapor in the testing vessel, the experiment was repeated with oil previously heated to 110 degrees and filtered, as well as with cylinder oil distillate, machine oil distillate, spindle oil distillate and residuum, with the result that in the case of the first-named oil, the time required for absorption was reduced to 4 days, the spindle oil required 10 days, and the remaining qualities much longer.

Cinchonidine and Homocinchonidine.

Cinchonine, cinchonidine and homocinchonidine are precipitated from a solution of their hydrochlorides by sodium carbonate in the order given; they are distinguished by the different size and shape of their crystals. Cinchonidine and homocinchondine obtained by sublimation, their chloroplatinates and hydro-iodides, all differ in crystalline form, and the latter base, as also its compounds, always occurs in much larger crystals. Thus homocinchonidine cannot be impure cinchonidine.

By sublimation no quinine or quinidine could be found in cinchonidine, and attempts to prepare the small crystals by fractional precipitation of solutions of mixtures of the large crystals with quinine, quinidine and cinchonine were without result.

There appear to be two distinct modifications of cinchonidine, of which the large crystalline variety is the more abundant in the preparations examined. The change of one modification into the other, according to the method of Hesse, could not be accomplished.—Zeits. Anal. Chem.

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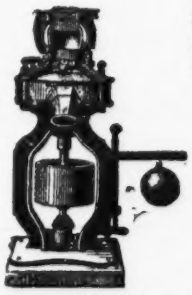

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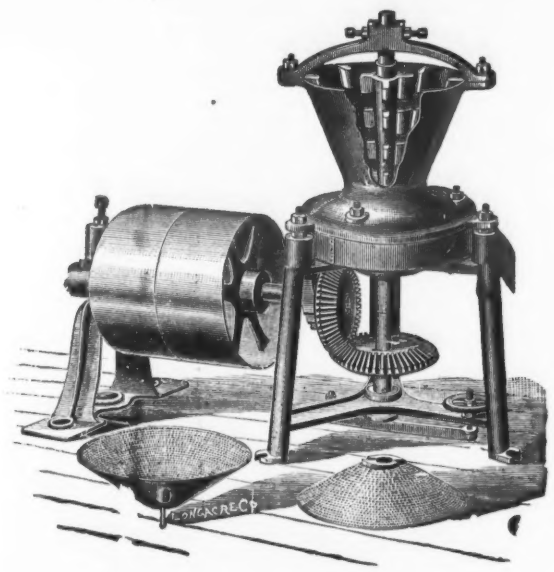

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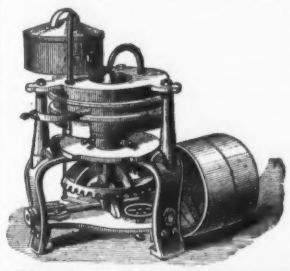

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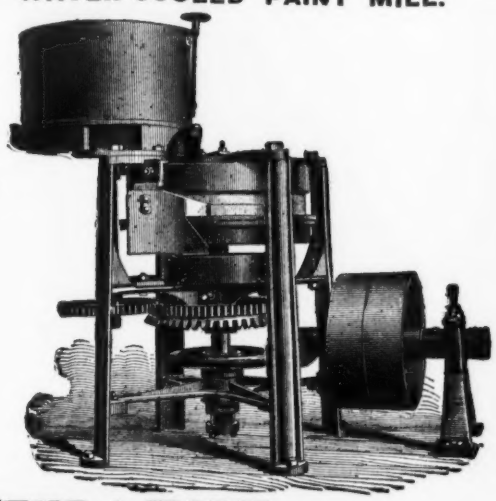

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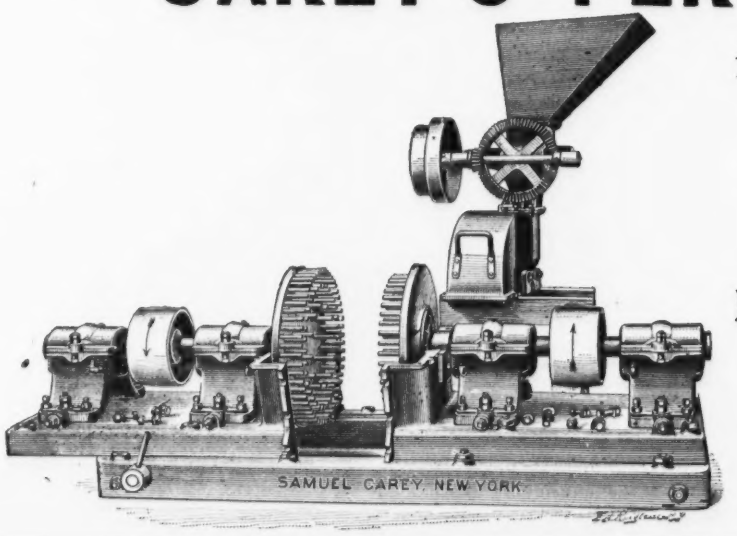

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(Special Correspondence to the Reporter.)

The Free Alcohol Hearing.

Washington, July 3, 1896.

The assistants of the Attorney-General who are conducting the Government's defense in the free alcohol cases are much disheartened at the outcome of the hearing of Deputy Commissioner Wilson, which was elaborately reported in these dispatches last week. Much had been expected of Mr. Wilson, for the reason that the Attorney-General had assumed that in the two years that have passed since the free alcohol law went into effect the department had gathered a vast amount of material in the support of its course in refusing to issue regulations.

The cases, of course, would never have been brought in the Court of Claims had the Treasury Department adopted a code of regulations at all adequate to the demands of trade, and the Attorney-General therefore feels that his department has been saddled with an enormous burden and responsibility as the direct result of a policy upon which the Secretary of the Treasury and the Commissioner of Internal Revenue entered with their eyes wide open. Having deliberately, and in spite of great pressure, decided not to enforce the law, the Department of Justice officials may well be pardoned for assuming that the Treasury had intrenched its own position in the strongest possible manner.

Readers of the Reporter will remember that from time to time Assistant Attorney General Dodge has excused the delay of the Department of Justice in bringing the test cases to a hearing by the statement that he was awaiting the preparation of certain "material" by officials of the Internal Revenue Bureau. This material was supposed to consist not only of citations of law which would form important links in the Government's defense, but also of an elaborate statement of fact based upon a very full knowledge of the whole free alcohol question, in this country and abroad, which it was supposed by the Attorney-General that the Department was possessed of.

One important result of the recent hearing in the Internal Revenue Bureau will be to cause the officials of the Department of Justice to abandon all expectation of receiving assistance from the Treasury, and they will now undertake to procure on their own account all information which they deem necessary to the Government's defense. A significant fact in this connection relates to the very full abstracts of the laws of foreign nations recently printed in the Reporter. These publications were used as the basis for the cross-examination of Deputy Commissioner Wilson, and proved so effective that the Government was completely routed. Soon after the hearing Mr. Binney learned that the Reporter's publication was based upon a most accurate translation of the laws, and he at once requested the Reporter's Washington correspondent to procure a complete file of the abstracts referred to, that he might study the free alcohol question as it is handled in foreign countries. Mr. Binney's request was promptly complied with, and he has expressed his thanks to the Reporter for the information thus furnished. It is hardly likely that the dedpartment will find much comfort in the foreign laws, as, without exception, they show an enlightened spirit of liberality toward home industries in remarkable contrast to the narrow and restricted methods employed in this country with reference to the use of one of the commonest and important ingredients of such a large proportion of American manufactures.

The following additional cases have been filed in the Court of Claims:

Otis Clapp & Son, Boston, Mass., $3,083, for alcohol used in the manufacture of pharmaceutical preparations and medicines.

Flower Medical Co., Boston, Mass., $390, for alcohol used in the manufacture of medicinal compounds.

B. S. S. Milton & Co., Salem, Mass., $225, for alcohol used in the manufacture of medicinal compounds.

H. H. Hay & Son, Portland, Me., $1,732, for alcohol used in the manufacture of pharmaceutical preparations.

George A. Schastey, Springfield, Mass., $97, for alcohol used in the manufacture of varnish for cabinet work.

Boston Distilled Water Co., Boston, Mass., $206, for alcohol used in the manufacture of flavoring extracts.

J. H. Folkins & Co., Chelsea, Mass., $1,334, for alcohol used in the manufacture of medicinal compounds and extracts.

J. H. Folkins & Co., Chelsea, Mass., $1,332 (second petition), for alcohol used in the manufacture of medicinal compounds and extracts.

Mary J. Bradford, Boston, Mass., $192 (third petition), for alcohol used in the manufacture of extracts and perfumery.

The Pickering Manufacturing Co., Buffalo, N. Y., $1,057, for alcohol used in the manufacture of extracts and essences.

Jacobs Pharmacy Co., Atlanta, Ga., $825, for alcohol used in the manufacture of pharmaceutical preparations.

Norwich Pharmacal Co., Norwich, N. Y., $4,134, for alcohol used in the manufacture of pharmaceutical preparations.

The Beach & Clarridge Co., ————, $572 (fifth petition), for alcohol used in the manufacture of extracts.

Mayer & Lowenstein, Long Island Cit, N. Y., $5,736, fol alcohol used in the manufacture of varnish.

Swift & Co., Chicago, Ill., $1,903, for alcohol used in the manufacture of varnishes.

E. Hartshorn & Co., Boston, Mass., $382 (sixth petition), for alcohol used in the manufacture of extracts and medicinal compounds.

The Windsor Co., North Adams, Mass., $188, for alcohol used in the manufacture of cotton prints.

Everett Piano Co., Boston, Mass., $95 (second petition), for alcohol used in the manufacture of piano fortes.

Rogers & Pyatt, New York, N. Y., $11,080 (second petition), for alcohol used in the manufacture of shellac varnish.

Charles Cooper & Co., Newark, N. J., $46,105 (third petition), for alcohol used in the manufacture of sulphuric ether, collodion, absolute alcohol, etc.

L. C. King & Co., New York, N. Y., $9,884 (third petition), for alcohol used in the manufacture of shellac varnish.

Moller & Schuman, Brooklyn, N. Y., $2,975 (second petition), for alcohol used in the manufacture of shellac varnish.

Austin Nichols & Co., New York, N. Y., $5,192 (second petition), for alcohol used in the manufacture of flavoring extracts.

The Chemical Manufacturing Company, Danville, Ill., $938, second petition, for alcohol used in the manufacture of medicinal preparations.

Theodore A. T. Judd, Washington, D. C., $10, second petition, for alcohol used in the manufacture of pharmaceutical preparations.

Willard S. Richardson, Washington, D. C., $62, second petition, for alcohol used in the manufacture of medicinal preparations and perfumery.

Robert E. S. Ward, Pittsburgh, Pa., $486, second petition, for alcohol used in the manufacture of medicinal compounds and flavoring extracts.

Albert Courteur, Newark, N. J., $97, second petition, for alcohol used in the manufacture of varnish.

Nicolas Bouvier, New Orleans, La., $1,307, for alcohol used in the manufacture of toilet preparations and perfumery.

Sachs-Pruden Ginger Ale Company, Dayton, Ohio, $1,267, for alcohol used in the manufacture of flavoring extracts.

Parke, Davis & Co., Detroit, Mich., $23,584, seventh petition, for alcohol used in the manufacture of pharmaceutical preparations.

Rosengarten & Sons, Philadelphia, Pa., $8,826, third petition, for alcohol used in the manufacture of chemical preparations.

Herman Tappan, New York, N. Y., $969, fourth petition, for alcohol used in the manufacture of perfumery.

The Columbus Pharmacal Company, Columbus, Ohio, $473, for alcohol used in the manufacture of medicinal preparations.

Samuel P. Hite, Staunton, Va., $195, for alcohol used in the manufacture of proprietary and medicinal preparations.

Franklin MacVeagh & Co., Chicago, Ill., $1,443, second petition, for alcohol used in the manufacture of flavoring extracts.

Benton, Myers & Co., Cleveland, Ohio, $578, second petition, for alcohol used in the manufacture of pharmaceutical preparations and flavoring extracts.

A. B. Calisher, New York, N. Y. $391, second petition, for alcohol used in the manufacture of perfumery.

The Heckerman Drug & Dye Company, Bedford, Pa., $540, for alcohol used in the manufacture of medicinal preparations.

Bolen & Byrne, New York, N. Y., $379, second petition, for alcohol used in the manufacture of extract of ginger.

The Cleveland Varnish Company, Cleveland, Ohio, $395, second petition, for alcohol used in the manufacture of varnishes.

John Le Croy & Son, Camden, N. J., $2,182, for alcohol used in the manufacture of extracts and perfumery.

Sharp & Dohme, Baltimore, Md., $10,481, fifth petition, for alcohol used in the manufacture of medicinal compounds.

Monroe County Chemical Company, Fairport, N. Y., $97, for alcohol used in the manufacture of flavoring extracts.

Nicolai Brunn, Chicago, Ill., $333, for alcohol used in the manufacture of medicinal compounds.

The Bailey Drug Company, Zanesville, Ohio, $79, second petition, for alcohol used in the manufacture of pharmaceutical preparations.

Meller Drug Company, St. Louis, Mo., $484, third petition, for alcohol used in the manufacture of medicinal and like compounds.

Albert Zumpft, Sharpsburg, Pa., $573, third petition, for alcohol used in the manufacture of varnishes and japans.

E. J. Abel & Co., Chicago, Ill., $581, third petition, for alcohol used in the manufacture of medicinal compounds and flavoring extracts.

T. T. B. Bailey Co., Boston, Mass., $296, third petition, for alcohol used in the manufacture of perfumery and flavoring extracts.

The Indianapolis Varnish Company, Indianapolis, Ind., $195, second petition, for alcohol used in the manufacture of varnishes.

The E. E. Southerland Medicine Company, Paducah, Ky., $92, second petition, for alcohol used in the manufacture of proprietary medicines.

McCormick & Co., Baltimore, Md., $3,349, second petition, for alcohol used in the manufacture of flavoring extracts and pharmaceutical preparations.

Armour & Co., Chicago, Ill., $274, third petition, for alcohol used in the manufacture of phramceutical preparations.

George A. Kelley Company, Pittsburgh, Pa., $189, fourth petition, for alcohol used in the manufacture of medicinal preparations.

H. H. Hay & Son, Portland, Me., $97, second petition, for alcohol used in the manufacture of pharmaceutical preparations.

Hood Cologne Company, Boston, Mass., $20, fourth petition, for alcohol used in the manufacture of perfumery and cologne.

Mason & Hamlin Company, Boston, Mass., $2,783, second petition, for alcohol used in the manufacture of pianofortes.

American Waltham Watch Company, Waltham, Mass., $384, fourth petition, for alcohol used in the manufacture of watches.

Hollander, Koshland & Co., Baltimore, Md., $480, for alcohol used in the manufacture of perfumery and like compounds.

Jacob E. Stever, Newark, N. J., $57, second petition, for alcohol used in the manufacture of flavoring extracts.

The Haynor Manufacturing Company, Portsmouth, Va., $643, for alcohol used in the manufacture of proprietary medicines and extracts.

John Robinson, Green Bay, Wis., $112, second petition, for alcohol used in the manufacture of pharmaceutical preparations.

Dr. Koch Vegetable Tea Company, Winona, Minn., $62, for alcohol used in the manufacture of proprietary medicines.

Strutz & Ciottu, Chicago, Ill., $670, second petition, for alcohol used in the manufacture of medicinal and toilet preparations.

Dr. John Leeson, Cadillac, Mich., $20, third petition, for alcohol used in the manufacture of proprietary medicines.

T. E. Moore, New York, N. Y., $41, second petition, for alcohol used in the manufacture of proprietary medicines.

Egbert W. Gillett, Chicago, Ill., $1,170, third petition, for alcohol used in the manufacture of medicinal compounds.

George A. Erkenbrach, New York, $581, third petition, for alcohol used in the manufacture of medicinal compounds.

Hamlin's Wizard Oil Company, Chicago, Ill., $3,852, fourth petition, for alcohol used in the manufacture of proprietary medicines.

Chemical Manufacturing Company, Danville, Ill., $969, third petition, for alcohol used in the manufacture of medicinal preparations.

Nicholas Bouvier, New Orleans, La., $100, second petition, for alcohol used in the manufacture of toilet preparations and perfumery.

Julius L. Baldauf, Henderson, Ky., $179, for alcohol used in the manufacture of pharmaceutical preparations.

The Artesian Manufacturing and Bottling Company, Waco, Tex., $505, second petition, for alcohol used in the manufacture of flavoring and medicinal extracts.

Atwood & Steele, Chicago, Ill., $1,344, second petition, for alcohol used in the manufacture of extracts.

The Searle & Hereth Co., Chicago, Ill., $16,026, third petition, for alcohol used in the manufacture of medicinal preparations.

William Lawton Roorbach, Philadelphia, Pa., $916, second petition, for alcohol used in the manufacture of medicinal preparations and extracts.

S. E. Dubbel & Co., Waynesboro, Pa., $558, for alcohol used in the manufacture of medicinal preparations.

S. E. Dubbel & Co., Waynesboro, Pa., $31, second petition, for alcohol used in the manufacture of medicinal preparations.

Finlay, Dicks & Co., New Orleans, La., $794, fourth petition, for alcohol used in the manufacture of medicinal compounds.

D. E. Prall & Co., Saginaw, Mich., $2,008, for alcohol used in the manufacture of Hinkley's Bone Liniment.

Burkhart Medicine Company, Fon du Lac, Wis., $96, second petition, for alcohol used in the manufacture of proprietary medicines.

The Reuhl Molding Manufacturing Company, Cincinnati, Ohio, $885, for alcohol used in the manufacture of varnish.

The Miller Extracts Company, Baltimore, Md., $2,756, for alcohol used in the manufacture of flavoring extracts.

Reid, Murdock & Co., Chicago, Ill., $1,933, second petition, for alcohol used in the manufacture of flavoring extracts.

C. De Haan & Co., Des Moines, Iowa, $83, second petition, for alcohol used in the manufacture of toilet preparations.

Dr. J. F. True & Co., Auburn, Me., $270, for alcohol used in the manufacture of proprietary medicines.

Behr Bros. & Co., New York, N. Y., $140, for alcohol used "in the arts."

Senna and Its Adulterants.

BY E. LATOUR.

The medical importance of senna leaflets, and the numerous sophistications to which they are subject, have induced the author to study their anatomical structure, and also that of the leaves and leaflets which are most frequently mixed with the drug, in the hope of being able to find some sure means of detecting these foreign admixtures. This is of especial importance in view of the possibility of the presence of the leaves of Coriaria myrtifolia or other dangerous species. The use of the microscope is the most valuable mans available for the purpose, other methods of determination being so frequently inapplicable. Thus, in cases where the specimen consists of minute fragments only, or where the principles naturally contained in the drug have undergone considerable change, the anatomical elements are yet often found completely preserved. Independently of the chemical and organoleptic characters, therefore, the purity of the specimen and the nature of possible impurities may be detected by macroscopic characters (as revealed to the naked eye or disclosed by means of a hand lens), or by the more minute anatomical characteristics, which are only distinguishable by the use of a microscope. The object of the present article is to deal exclusively with the last named

STRUCTURE OF LEAFLETS OF SENNA

(Cassia sp.)

Senna is the product of several species in the natural order Leguminosae (Caesalpineae), including Cassia acutifolia, Del., C. angustifolia, Wahl., C. obovata, Collad, C. lenitiva, Bisch., and their different varieties. There is little difference between the upper and lower epidermis of senna leaflets. The cells are irregularly polygonal with thin walls, and there are numerous stomata, which are each in contact with two to four cells. There are also numerous unicellular hairs on the epidermis, which are deciduous, leaving as they detach themselves a base having the appearance of an annular pad, around which the neighboring cells seem to radiate. In Cassia obovata the stomata are situated on a level with the surface, and their outline appears simple under the microscope; other sennas have the stomata placed below the surface, and also with doubled outlines. The parenchyma, which is protected by an epidermis covered with a stout cuticle, is divided into three layers, the uppermost and lowest consisting of palisade tissue, while between these there is a zone of very small, rounded, parenchymatous cells. Stellate crystals of calcium oxalate are seen here and there throughout the parenchyma, and prismatic crystals of similar composition occur singly in cells which unite

to form sheaths around the principal veins. The endodermis is not colored by sodium hypochlorite.

STRUCTURE OF POSSIBLE ADULTERANTS OF SENNA.

Other leaves or leaflets that have been found mixed with senna are those of Coriaria myrtifolia, L., Solenostemma argel, Hayne, Vaccinium vitis-idaea, L., Colutea arborescens, L., Globularia alypum, Tephrosia apol'inea, De C., and Cassia marilandica, L.

1. Leaves of Coriaria myrtifolia L.

The cells of the lower epidermis of these leaves are about a third larger than those of the upper epidermis. The cells are irregularly polygonal, with thin walls, and the stomata have elliptical apertures, while each is accompanied by two cells placed symmetrically and finely wrinkled. Hairs are wanting. The leaf parenchyma consists in the middle of loosely joined, rounded cells, and there are two rows of palisade cells adjoining the lower epidermis, but only one row adjoining the upper epidermis. The endodermis, which is clearly defined and consists of large cells, is colored yellowish-brown by sodium hypochlorite.

2. Leaves of Solenostemma argel, Hayne.

The upper and lower epidermis of argel leaves are almost alike, being formed of very thin polygonal cells. The not very numerous stomata have very large apertures, and are bordered by five to seven cells each. The hairs are numerous and multicellular. The leaf is characterized by its double zone of palisade cells, its very limited spongy parenchyma, and by the presence of sphaerocrystals and secretion cells. The median vein is large.

3. Leaves of Vaccinium vitis idaea, L.

The upper epidermis of these leaves consists of polygonal cells with thick and sinuous walls, and is characterized by the lack of stomata, hairs and glands. The cells of the lower epidermis are smaller, and on this side of the leaf there are numerous small stomata, each surrounded by four or five cells, as well as multicellular glands. There are only two zones in the internal tissue of the leaf, one of palisade cells and the other of spongy parenchyma, and the edge of the leaf is traversed by a bundle of fibers. The fibro-vascular bundles in the veins are also covered by a mass of pericyclic fibers on their upper and lower surfaces.

4. Leaves of Colutea arborescens, L.

The leaves of Colutea arborescens have an upper epidermis consisting of irregularly polygonal cells, which have thin and sinuous walls. Hairs are wanting and stomata very rare. On the lower surface, however, there are numerous small stomata with elliptical openings, each being surrounded by four or five cells. The long unicellular hairs are also abundant, and generally narrow at the base. The parenchyma presents no special features

5. Leaves of Globularia alypum, L.

These leaves have the epidermis alike on both sides, consisting of irregularly polygonal cells with very thick walls, and containing prismatic crystals of calcium oxalate. The numerous stomata are surrounded by two to five cells each, and have elongated apertures. The leaves bear bicapitate glands but no hairs, and the parenchyma is homogeneous with but few interspaces.

6. Leaflets of Tephrosia apollinea, De C.

The epidermis is much alike on both sides of these leaflets, being formed of the usual irregularly polygonal cells, and the numerous stomata with large apertures are surrounded by several cells. The hairs are multicellular, long and numerous, and the parenchyma is normal. The median vein is triangular, projects at the base, and diminishes towards the opposite extremity. It is protected by a fibrous cover, surrounded, like the secondary veins, by a sheath of cells containing crystals of calcium oxalate.

7. Leaflets of Cassia marilandica, L.

Large, sinuous cells and the absence of stomata characterize the upper epidermis of the leaflets of Cassia marilandica, while the lower epidermis differs in possessing stomata with small, elliptical apertures. Hairs are lacking in both cases, the leaflet has but one row of palisade cells, and the spongy parenchyma is very loosely connected.

TO DETERMINE WHETHER SENNA IS ADULTERATED.

The specimen to be determined, whether entire or not, is carefully picked over, and suspected pieces are placed on one side. The latter are then examined under the microscope after decoloration with sodium hypochlorite. It is well, however, to test with ferric chloride previously, as this gives a precipitate in the case of leaves from Coriaria and Vaccinium. The microscopic examination of specimens in the state of powder is an extremely delicate operation, but the clearly defined characters of the principal substances used to adulterate senna readily enable us to determine the nature of any falsification.—L'Union Pharmaceutique.

Sulphur and Petroleum in Louisiana.

We are in receipt of the report just issued by Prof. Clendennin, State Geologist of Louisiana, on the geology of that State, which contains the following interesting data bearing upon its sulphur deposits, as well as a suggestive reference to petroleum:

Sulphur.—In Southwest Calcasieu parish, about nine miles west of Lake Charles, are known to exist considerable deposits of sulphur. For a long time before any explorations were made gas was observed to escape in bubbles through the boggy marsh and in certain places globules of oil could be seen rising and rapidly spreading over the surface of the pools. This led to borings being made in search of marketable quantities of these two minerals. Though the search in this direction proved fruitless—no gas being obtained and oil only in such limited quantities as to be of merely local value—yet it was discovered that beneath the region existed enormous deposits of sulphur. Rich stock companies were formed and expensive machinery imported with a view to mining the sulphur; but misfortune followed so close upon the inauguration of every enterprise looking to the development of these mines, that, though more than thirty years have elapsed since the first discovery of sulphur here, its successful extraction may be said to be yet in the experimental stage.

It is thought that a process has been discovered by which the sulphur may be easily and cheaply obtained, and in the experiment the new process proved very successful. Beautiful specimens of almost pure sulphur were presented to the Survey by the superintendent, Mr. J. C. Hoffman, and a considerable mass was displayed as the product of the initial run. The principle involved in the new method is to force superheated steam by one pipe down into the deposit, which melts the sulphur and forces it up by another pipe. The principle and method seem both simple and rational, but certain difficulties were revealed by the experimental test that had not been corrected when I visited the mine in the Summer of 1895.

The following section furnished me by Mr. Hoffman from a bore 540 feet deep will give a very good general notion of the strata overlying the sulphur, and of the probable age of the deposit:

Columbia: (1) Yellow and blue clay, 80 feet. (2) Blue clay and fine sand, 55 feet. (3) Blue clay, hard and almost pure, with many sandy pockets, 30 feet. (4) Fine gray sand, water bearing, 135 feet.

Lafayette: (5) Gravelly sand, increasing in size, 45 feet. (6) Gray sand, coarse, 10 feet.

Grand Gulf, or Vicksburg: (7) Marl, 2½ feet. (Petroleum and tar.) (8) Blue sandy limestone, 30½ feet. (9) Calcareous marl, 4 feet. (10) Hard, rough, gray calcareous marl, 5 feet. (11) White saccharoidal calccareous marl, 10 feet (12) White saccharoidal calcareous marl reduced to sand, 7 feet.

Cretaceous: (13) Hard, compact limestone, 25 feet. (14) Sulphur, 112 feet.

The upper yellow member of No. 1 is the attenuated stratum of yellow clayey loams, while the "blue clays" of 1, 2 and 3 are probably Port Hudson. No. 4 is probably the basal member of the Columbia and derived chiefly from the sandy clays of the Lafayette. Nos. 5 and 6 are pretty surely Lafayette. The next 60 feet are not so certainly identified, but in the main very nearly resemble the only Grand Gulf outcrops I have examined in Northern Vernon and Southern Natchitoches parishes. They may be partly Vicksburg. No. 10 I have called Cretaceous, because of its resemblance to St. Landry limestone. In five other bores the bottom of the sulphur was reached at 522, 621, 603, 593 and 568 feet, respectively.

The following is the section of a well here, taken from Dr. Hopkins' First Report:

Prairie Diluvium: (1) Blue clay, layers of sand, 160 feet.

Drift: (2) Sand, 173 feet.

Grand Gulf: (3) Clay rock, soapstone, 10 feet. Vicksburg: Blue anthraconitic limestone, fissured, 40 feet.

Cretaceous: (5) Gray limestone, 60 feet. (6) Pure crystalline sulphur, 100 feet. (7) Gypsum with sulphur, 137 feet. (8) Sulphur, 10 feet. (9) Gypsum, grayish blue, 540 feet.

"The first four strata were all more or less oil bearing. Several streams of water were struck, one below No. 4 and the other below No. 5. The latter was a strong solution of sulphide of hydrogen, and was flowing during my visit, killing all the vegetation that its water reached. Stratum No. 4 is the one that seems to me to be identical with that of Chicot."

No. 1 corresponds to the Columbia of my section, and No. 2 to my Lafayette. No. 4, while pronounced here as Vicksburg, is recognized as similar to the St. Landry limestone, and Dr. Hopkins, in his second report classifies that as Cretaceous. With these amendations it will be seen that the records are fairly agreeable.

Concerning the origin of the sulphur here little is known. Being far removed from any volcanic outburst, we can hardly attribute its origin to volcanic agencies. There have been unquestionable convulsions of the earth in this and neighboring regions in Southwest Louisiana that have fissured and to some extent metamorphosed the rocks; but it seems that these were more probably attendant phenomena upon the formation of the sulphur bed than results of volcanic activity. The following, extracted from Dr. Hopkins' first report, for want of a more plausible one, is here offered as a probable explanation of the sulphur deposits in Calcasieu parish:

"The sulphur is of unequaled thickness and purity, and the gypsum is also of unusual quantity. Above them we have the remarkable fact of newer Tertiary and post-Tertiary strata, full of petroleum. Southern California and Trinidad furnish examples of oil from the Tertiary series, but here the drift and diluvium seem equally full.

"Dufrenoy states that sulphur is commonly associated with gypsum, rock salt and bituminous strata; and that, in fact, it is formed from the gypsum by deoxidation by organic matter.

"Whether the organic matter is of vegetable or animal origin is a debatable question. Either source would supply carbon and hydrogen, to remove the oxygen from the gypsum on the one hand and to furnish petroleum and marsh gas on the other.

"In this instance the large amount of sulphur produced points to the vegetable kingdom as the probable source; for the accumulation of animal matter sufficient for the purpose at this one spot, would have been an unexampled occurrence.

"The reaction between lignite and gypsum is very complicated in nature, but may be thus approximately expressed:

C12 H12 O4 plus 4 Ca S O4 equals 4 Ca C O3 by 4 S by 4 C O 2 plus 2 C H4 plus 2 C H2. Or, one equivalent of lignite, and four of gypsum give four each of limestone, sulphur and carbonic acid, with two each of marsh gas and olefiant gas. Now marsh gas and carbonic acid gas often issue from earth containing decomposing vegetable matter alone, but olefiant gas seldom or never. By a further reaction with marsh gas and water the olefiant gas becomes equivalent to petroleum, thus:

32 C H2 plus C H4 plus 2 H2 O equals 3 (C6 H14) plus C8 H18 plus ½ (C12 H24) plus C O 2. Or, thirty-two equivalents of olefiant gas and one of marsh gas with two of water, contain the elements of one of petroleum, and one of carbonic acid gas. The sulphur was formed by reducing the gypsum with vegetable matter. The corbonic acid, olefiant gas and marsh gas produced by the process, have each left the appropriate proof of its presence, i. e., the limestone stratum No. 5 contains the former, the petroleum is made of the olefiant gas, and the mounds were the vent holes for the latter."

Petroleum and Gas.—As already stated, the sulphur was discovered in the search for petroleum and gas. In all the marshy region round about the sulphur mine evidences of both these minerals are seen. The clays and loams of the Columbia and gravel and sand beds of the Lafayette seem to be impregnated with them. Wells stopped in these deposits, while furnishing fairly good water for a time, eventually become foul with crude oil and have to be abandoned. As far west as Vinton, in the Sabine Prairie, this was found to be so.

In the edge of the marsh east of Belle Isle numerous gas springs occur, and in several places pools of oil collect, in every respect like the gas and oil springs of Calcasieu. It remains to be proven if here, too, sulphur may be found. Economically, these flows of gas and petroleum are of no value, and are only useful as probable indicators of the existence of other valuable mineral deposits.

Latest Tariff Decisions.

Duty on Tar Oil.

R. F. Downing & Co. imported tar oil, which the Collector assessed at 25 per cent., paragraph 60, Act of 1894. The importers protested, but the Board of United States General Appraisers has sustained the Collector in the following decision:

"Tar oil, assessed at 25 per cent. under paragraph 60, and claimed to be free as a product of coal tar, under paragraph 443, or to be dutiable at 25 per cent. under section 3. The article in question is a liquid substance of a dark brown color and tarry odor, the product of the distillation of wood tar, with a possible slight admixture of oil derived from coal tar, known generally as dead oil. It is a distilled oil, known commercially as tar oil, which has undergone certain mechanical manipulations with chlorine or some other oxidizing agent."

Petroleum Trade of Swatow.

The following remarks on the trade in kerosene at Swatow, China, have been supplied the British Consul by large importers:

The tables show an increasing import, 310,000 cases (of 10 gallons each) having been landed in 1895, against 260,000 cases in 1894. The proportion of American oil has fallen from about two-thirds of the total in 1894 to about one-third in 1895. Russian oil shows an increase, and a new feature of the trade is the import of oil in bulk from Batoum. Oil from Langkat, one of the Dutch possessions in Sumatra, also figures largely in the year's returns, the import having increased from 17,000 cases in 1894 to 79,000 cases in 1895.

Prices of oil ruled very high in 1895, particularly in the latter part of the year, when the supplies from Batoum were restricted by floods and damage to the railway. The demand was somewhat restricted by high prices, but the trade seems destined to increase. The plentiful supply of a cheap illuminant is a great boon to the Chinese population.

There is no oil imported here from British possessions, but the tank steamers from Batoum to Hong Kong are under the British flag. The oil is transhipped and brought on to Swatow in a subsidiary steamer under the German flag.

It should be added that the introduction of Langkat oil dates back only to 1894.

Transportation Notes.

The Joint Traffic Association has decided to adopt strong measures to stop the cutting of rates by lines not in the association. Absolute maintenance of rates according to their published tariffs by the members of the association has given some of the smaller lines in the West an opportunity to underbid them for business, and in this the same lines have been encouraged by the large shippers, who are no longer able to obtain special rates, to the detriment of their less powerful competitors.

The Board of Control of the Joint Traffic Association decided to submit to counsel the question of prosecution of railroad companies for violation of the Interstate Commerce act, where such companies are carrying freight and passengers at rates below their published tariffs. This action was taken on motion of Mr. Depew, after a speech by President Ingalls of the Big Four, in which he urged the necessity of immediate action. Mr. Ingalls' charges are said to have been directed principally against the Toledo, St. Louis & Kansas City, or "Clover Leaf" road, and the Louisville & St. Louis Air Line, both of which are operated by receivers.

There is much interest at present among the agents of the lake steamship lines and other forwarders having connections with them over reductions in the all-water rates on westbound freight from New York to St. Paul, Minneapolis and common points which have recently been made by nearly all the lake steamship lines. The all-water rates to these points opened this season on the basis of 54 cents on first-class freight via Duluth, and at 65 cents via Chicago and Milwaukee, the latter rate being that of the Diamond Dispatch line. This line reduced its rate on the 19th instant to meet the rates of the Duluth lines. All of the Duluth lines, however, with the exception of the Anchor Transit line, have, it is said, within a few days reduced their rate to a 44-cent basis, and the same rate was also made yesterday by the Diamond Dispatch Company via Chicago and Milwaukee.

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OIL MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*
Complete prices current will be found on page 35

FRIDAY EVENING, July 3, 1896.

All branches of the oil market have this week been characterized by Summer quietude. A succession of hot days had a depressing effect on the market, and toward the end of the week the thoughts of the trade were more or less diverted to patriotic celebrations incident to the Fourth of July, and thus the period under review was duller than its immediate predecessors. The small orders which composed the business of the week were executed at generally steady prices, but with one or two exceptions there was no special tone to any of the leading articles. Linseed oil was firm, owing to the prospect that the efforts of the crushers to unite upon a mutually satisfactory plan to maintain prices will be successful. Cottonseed oil is neglected by exporters, and the home demand is only of a routine character, but values indicate no fluctuations of importance. Fish and animal oils show no particularly new features.

Vegetable Oils.

LINSEED.—The crushers' meeting referred to in our last issue was the principal topic of discussion in the trade this week, but no further developments of an interesting nature are noted. The feeling is one of uncertainty regarding the outcome, despite the fact that the meeting at Niagara Falls was harmonious and pronounced "successful" by most of those who attended. Prices here are steady at 37c. for raw oil of all makes, and 52c. for Calcutta. Business is backward, and very little improvement is expected for a while. Further exports of flaxseed were made this week, 8,493 bushels having been shipped to Bristol.

COTTONSEED, CRUDE.—There is so little oil being received in this section that it is almost impossible to quote the market. For a prime quality 21c. is asked, but buyers are not bidding over 20½c., and this for only a limited quantity. Considerable choice crude was taken up early in the week at the mills by a large Western refiner, at prices ranging from 16¾@17½c., loose, as to freight rate. The sales here have been of a retail nature, of both prime and off quality, at prices ranging from 19@20c. for the latter, and 20½@21c. for the former.

REFINED.—The past week has been about the dullest the cotton oil trade has experienced since the season opened. The closing of the exchanges preceding the holiday, together with the weakness displayed in both the tallow and lard markets, have tended to check what little trade there was for cotton oil. Many predict a duller market next week, when the Cotton Bureau report comes out, and the result of the Chicago Convention is known. Still, it does not seem possible for things in general to be any worse than they have been this week. There are no fresh export orders in the market, and what little inquiry there is comes from those who have contracts to fill later in the month, hence their indifference about covering them at current rates. European markets are all dull, and none is inclined to pay over 24@24¼c. for a prime, or nearly prime, summer yellow for July shipment. The market here is held at 25c. for prime yellow, with 24½c. bid, and possibly 24¾c. would be accepted, but sellers are not anxious to force their stocks. Off yellow will bring nearly the price for prime—in fact, there is so little offering that it is hard to say just what could be done. Considerable interest is being shown in winter yellow of late, and while the volume of business so far is not large, the negotiations which are now pending indicate a large trade in the near future. Summer white is also attracting more attention, but prices at the moment are somewhat irregular, owing to the quality of the oil offered. The sales which have come to the surface indicate how dull trade has been since our last review; they comprise 250 barrels summer yellow, at 25c., f. o. b.; 400 barrels, do., at 25c., f. o. b.; 100 barrels, do., from dock, at 24¾c.; 500 barrels, do., at 24¾c.; 200 barrels, off yellow, at 24¾c., f. o. b.; 450 barrels prime yellow, at 25c.; 200 barrels winter yellow, at 30¾c.; 100 barrels, do., at 30½c.; 350 barrels, do., at 30½@31c.; 150 barrels white oil, at 27½c.

EXPORTS OF COTTONSEED OIL FROM NEW YORK BY COUNTRIES, IN GALLONS.

	For week ending July 3, 1896.	Since Sept. 1, 1895.	Same time last year.
Africa	7,250	318,070	154,300
Argentine Republic	....	33,700	47,355
Australia	200	88,700	17,961
Austria	17,500	1,137,400	1,115,700
Belgium	50,000	183,750	171,000
Brazil	15,500	476,310	414,224
B. Guiana	1,500	59,890	13,054
B. West Indies	5,950	210,857	141,280
Canary Islands	....	2,500	1,100
Central America	....	7,146	2,152
Chili	....	4,000	3,000
Cuba	....	2,230	1,353
Danish West Indies	....	3,763	7,792
Dutch West Indies	....	51	....
Denmark	....	67,850	44,500
Egypt	....	31,750	3,000
England	500	419,600	1,197,375
France	76,000	3,540,150	2,119,016
Fr. West Indies	6,000	276,375	178,362
Germany	16,750	254,900	1,793,933
Gibraltar	....	....	179,750
Hayti	....	2,940	1,076
Italy	22,500	210,463	828,850
Japan	....	1,250	....
Malta	2,500	5,000	....
Mexico	750	56,544	79,568
Netherlands	5,000	616,550	1,497,405
New Zealand	....	3,095	3,493
Norway & Sweden	....	14,150	650
North America	5,000	27,800	36,010
Porto Rico	....	500	5,250
San Domingo	175	29,583	16,343
Scotland	5,000	10,700	75,650
Uruguay	2,000	99,350	85,171
U. S. Colombia	255	10,878	15,380
Venezuela	....	1,941	1,892
Totals	233,500	8,516,683	10,784,035

EXPORTS OF COTTONSEED OIL FROM NEW ORLEANS BY COUNTRIES, IN GALLONS.

	For week ending July 3, 1896.	Since Sept. 1, 1895.	Same time last year.
Austria	....	182,500	220,000
Belgium	....	100,500	12,500
Denmark	....	35,000	....
England	....	1,424,030	2,101,750
France	....	255,700	235,000
Germany	....	45,000	76,440
Gibraltar	....	200,000	....
Italy	....	7,500	18,500
Netherlands	2,500	2,576,337	2,116,500
Totals	2,500	2,996,567	4,723,000

EXPORTS OF COTTONSEED OIL FROM BALTIMORE BY COUNTRIES, IN GALLONS.

	For week ending July 3, 1896.	Since Sept. 1, 1895.	Same time last year.
Belgium	....	5,300	10,000
Brazil	3,275	21,877	86,125
England	....	32,670	38,500
Germany	....	88,976	197,590
Ireland	....	250	....
Netherlands	10,000	260,000	978,250
Scotland	6,875	28,375	21,800
Totals	20,140	439,438	1,332,215

Chas. B. Tainter & Co.'s Circular.

New York, July 3, 1896.

The usual dullness preceding our national holiday has been manifest during the week, and trading has been further restricted by the closing of all our exchanges for the day before as well as on the Fourth. Export inquiries are few, and generally on a basis of about 24½c. f. o. b. here for prime summer yellow. Holders of oil, however, are firm in their views, and not offering any store lots unless at outside figures which preclude business. The actual sales are generally made up of dock lots as they arrive, which are obtainable on easy terms, owing to warm weather, the necessity of quick removal and the fact that shippers are not willing to incur storage expenses. The political aspect, with the silver agitation now going on, is a deplorable factor, and has already produced a semi-panic in stocks and investment securities; and while we cannot for one moment believe the common sense of this country will sanction anything like repudiation, still the uncertainty existing between now and the November elections must have a bad effect on all business. Receipts of oil at this port for the past six days, in-

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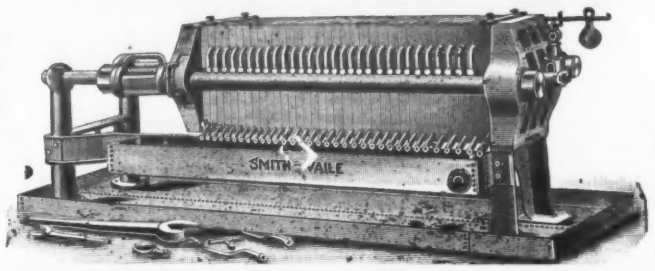

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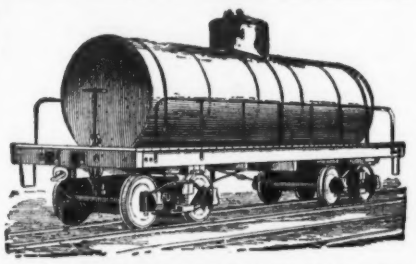

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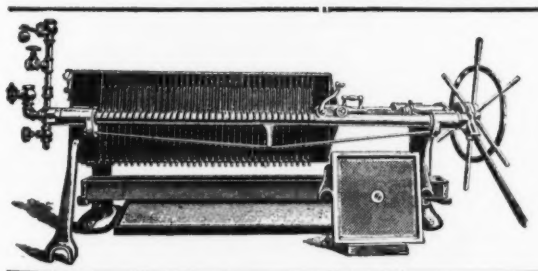

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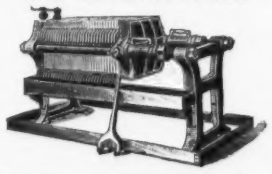

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cluding through shipments for export, are 2,153 barrels.

CORN.—We are reported sales aggregating 1,000 barrels corn oil to the export and the domestic trade at 26¼c., Western weights. The market is now quotable at 25⅝@26c., as to quantity.

Cocoanut Oils, Etc.

CEYLON.—The market is stronger in all positions, owing to a stronger Coast market and the clearing-up of spot stocks. Offers of 5c. have freely been made for spot lots, which are now held firm at 5⅛@5¼c., as to quantity and holder.

COCHIN.—Only a small retail trade is reported, to cover current wants, which at the moment are not urgent. Values however, are held steady, at 5⅝@5¾c., as to quantity and holder.

OLIVE.—There is almost nothing doing in round lots, only small retail sales are reported, at 50@52c., as to quality and holder. For arrival, 46@48c. is quoted, as to quantity and date of shipment, but for a round lot the inside figure would probably be shaded. Olive foots are dull, at 4½@4⅝c., as to quality, for spot, and 4¼@4⅜c. for arrival, as to quantity and date of shipment.

Animal and Fish Oils.

COD.—Steady prices are ruling on both descriptions of cod oil, but the requirements of the trade are unimportant. Sales of carload lots are rare, though this week there were negotiations for a few cars, which may result in business soon. We continue to quote Newfoundland at 27@29c., and domestic at 24@27c.

DEGRAS.—No new features are reported in the market for degras. Buyers this week were showing considerable reserve, and no business in excess of jobbing quantities was transacted. On current sales the following prices are being realized: German, 1⅝@1⅞c.; English, 2⅛@3c., and French, 5@5½c.

LARD.—The position of lard oil is practically as it was a week ago. The parent material is cheaper, but not enough demand for the oil exists to establish new prices. Western oil is still quotable at 38c. for prime, while city makes are held at 41@43c. Extra No 1 is held at 34@36c., No. 1 at 30@32c. and No. 2 at 28@30c.

MENHADEN.—The first of July was the date set for the fishing fleet to get under way, and a large number of them have started. The outlook is uncertain as yet, but it is probable that the boats will meet with the usual success. No business is reported in crude, and as to refined oils a jobbing distribution only was noticed. Prices on all grades are steady, as quoted.

NEATSFOOT.—In this article there is nothing new to chronicle. The current movement is made up of retail lots and values are unchanged. Prime is held at 55@75c.; No. 1, 45@48c., and No. 2, 32@35c.

RED.—The demand for saponified oil remains depressed. Small sales are reported at 3¼@3½c. The decline in Elaine, noted last week, has not stimulated trade, and the closing is easy, at 28@32c., as to quantity.

SPERM.—This market is particularly dull. Crude is wholly inactive, while manufactured grades are moving solely in response to a small jobbing demand. Prices, however, are steady.

WHALE.—Transactions in whale oil have likewise been restricted to exceedingly small retail quantities of refined. There are no new features in the market. Quotations are unaltered.

Mineral Oil.

BLACK.—The past week has been a dull one, the demand having been lighter than for some time, but this, it is confidently believed, will be only temporary, being incidental to the season. There is no change in quotations, good grades of Summer oil realizing 7 cents.

CYLINDER STOCKS.—Both filtered and steam refined have had a rather slow sale, though some dealers report a full average demand. Prices are without change and the offerings are not large, though it is said that considerable lots are awaiting a more favorable market.

NEUTRAL.—Trade has been entirely of a jobbing character, and in this way the movement has been fair, but it is difficult to find a customer for large lots, as dealers claim to be pretty well supplied. Their stocks are being steadily drawn upon, however, and an increased demand is expected later on. Prices are steady, especially for the better grades.

PARAFFINE.—We have heard of less oil being offered during the past week and owners have either sought other markets for their product or are awaiting more favorable conditions. The demand reported by dealers is light, but current prices are adhered to.

SPINDLE.—While the demand has fallen off considerably in consequence of the closing of some of the mills, dealers feel more encouraged as it is announced the shut down will be less general then was at first reported. Prices are steady.

Oil Cake.

The week closes without reported transactions in linseed cake, but the tone of the market is easier. Offers were made of prime cake at $16.25 per ton without finding purchasers. It is said that supplies in the West are accumulating rather rapidly, but here the holdings are moderate.

Wax, Lard, Tallow, Etc.

PARAFFINE WAX.—Dull trade is the verdict on every hand, though this is usually the case at this season of the year. There have been inquiries in the market for special grades of wax, but no transactions are reported and it is probable that those requiring the goods will have to raise their bids. There are now no outside lots pressing on the market and very few offering, pressers awaiting a change for the better. An offer of 3c. for a good grade of 120 m. p. is said to have been refused, 3¼c. being asked by the holder. The principal holders continue to quote crude at 3½c. for 117 m. p., and 3¾c. for 124@126 m. p. Refined is steady and in moderate request at 5c. for 115@120 m. p.; 5½c. for 125 m. p.; 6½c. for 130 m. p.; 7c. for 135 m. p., and 10c. for 140 m. p.

LARD.—The Western markets were alternately depressed and steady, causing similar features here, and, though quotations to-day show a lower range than those of last week, the closing tone was fairly firm. On July 1 the stock at Chicago was 269,095 tierces, against 216,562 tierces June 1. The increase in the world's visible supply for June was 82,367 tierces, showing a total stock of 585,713 tierces, against 503,346 tierces the previous month. Of the supplies are 254,500 tierces held in Europe and afloat, and 331,213 tierces in this country, a gain for the month of about 53,000 tierces in America and 30,000 tierces in Europe. The demand was not active, though at times considerable interest in the market was shown by operators. The closing quotations in the West were 3.90c. for July, 4c. for September, 4.07½c. for October and 4.35c. for January. Here the final prices were 4.25c. for cash, 4.20c. for July options, 3.75c. for city steam; refined 4.20c. for Continent and 4.85c. for South America; compound 4@4¼c. Sales: 150 tierces city steam at 3.75c., 225 tierces do. at 3.75c., 50 tierces do. at 3.75c., 250 tierces cash at 4.22½c., and 250 tierces do. old packages, at 4.15c.

STEARINE.—No material change can be chronicled in the market for stearine. Pressers were firm at 4¼@4¾c. for oleo, under light stocks in their hands, and the belief that lard refiners will soon enter the market for supplies. Lard stearine is slightly lower and very quiet at 4¾c.

TALLOW.—The market was rather uninteresting throughout the week, and quotations are a shade easier. Early in the week offers of city tallow were made at 3¼c., which is now regarded as a fair quotation. For country-made tallow some small lots changed hands at 3¼@3¾c.

(Special correspondence to the Reporter.)

Chicago Oil Market.

Chicago, July 2, 1896.

LINSEED OIL.—The past week has been dull, although the volume of business has been as large as might reasonably be expected at the season. Prices are unchanged but firm, raw oil commanding 37c. in car lots.

FLAXSEED.—The bulletin of the registrar showed that at the beginning of the week local stocks in regular warehouses had decreased 168,132 bushels, which was partially offset by a gain of 147,526 bushels in the amount in special bins, thus making the total reduction at this point 30,606 bushels. The diminution at Duluth was considerably more important, amounting to 108,527 bushels, while the supply at Minneapolis remained practically unchanged. A comparison of the figures given in the appended table shows the total reduction in these three distributing centers to have aggregated 124,441 bushels, while the visible supply is still sixty times that of a year ago:

	June 29, 1896.	June 22, 1896.	June 27, 1895.
No. 1	46,155	207,031	24,636
Rejected	.....	7,256	.....
No Grade	609	609	609
Total Reg.....	46,764	214,896	25,245
Special bins...	318,636	177,110	.....
Total Chicago.	365,400	386,006	25,245
Duluth 1,418,730		1,527,257	.....
Minneapolis ..	45,197	45,505	4,450
Total N. W....1,829,327		1,958,768	29,695

The daily postings of the secretary of the Board of Trade are summarized in the table given below. They show the total movement of seed to have been considerably more active than for the week preceding, receipts having increased 19,460, and shipments 45,736 bushels. The following are the official figures:

	—Receipts.—		—Shipments.—	
Week ending	1896.	1895.	1896.	1895.
July 1.....	62,165	21,329	67,028	9,383
June 24	43,705	16,750	21,292	4,837

Arrivals at this point have been comparatively light. Only 90 cars have been inspected, of which 82 were of contract requirements, while 3 were classed rejected, and 2 as no grade. On the other hand, the outward movement has been brisker, having amounted to 61,420 bushels, of which 37,770 bushels were withdrawn from store, a considerable proportion of the latter having been laden to vessels. The market for both cash seed and future deliveries has been drooping and not specially active. Reported sales on 'Change foot up 59 cars. Of these 55 were of No. 1 seed, prices ranging downward from 79@76c. July, September and December options all attracted moderate attention. Of the former sales of 62,000 bushels were reported, the tendency and range of values being almost identical with those for cash seed. September flax was more active, selling to the amount of 207,000 bushels, yet at quotations declining from 80¼@77c. Some 130,000 bushels of December changed hands, the price receding from 82 to 79c. Toward the close a better feeling in the speculative market was developed, although the reaction was only slight. July was exchanged for December at 4c. premium for the latter.

OIL CAKE.—The export inquiry is of a character not satisfactory to crushers. It is decidedly limited in extent, and is mainly for autumn shipment, while producers are inclined to "fight shy" of selling any considerable amount of cake for deferred delivery. Only a few unimportant sales are reported, and these almost wholly on the basis of $13, although a shade higher was paid for special brands in a few cases. Meal is quiet and quoted at about $14@14.50 per ton.

OLEO OIL.—The past week has been a disappointing one to exporters. Exports have increased some 40 per cent., being estimated at about 4,800 tierces, and stocks in Holland have risen to about 5,000 tierces—a gain of fully 25 per cent. There has also been a pronounced disposition to sell, under the influence of which prices declined fully 4 florins, extra grades falling from 35 florins to 30@31 florins, with medium oils easily obtainiable at 22@28 florins, according to brand. Nearly 3,000 tierces are reported sold. Neutral lard showed some activity early, but the decline in the product on this side exerted a depressing influence, late cables being to the effect that churners show indifference, and are talking about 25 florins.

LARD OIL.—The supply and inquiry are both fair, but the general tone of the market is quiet. Market values have sympathized with the decline in lard, to-day's quotations showing a considerable reduction. Extra is purchasable at 38c., with extra No. 1 rather quiet at 35c. No. 1 and No. 2 are respectively quoted at 30@27c.

The Price of Lard in Chicago.

The following table shows the range of prices of lard at Chicago during the past week:

June.	Cash.	July.	Sept
29 ..	3 85 @3 87½	3 85 @3 87½	4 00 @4 02½
30..	3 90 @3 92½	3 87½@3 90	4 00 @4 05
1...	3 87½@3 90	3 87½@3 92½	3 97½@4 05
2...	3 87½@3 90	3 87½@3 90	3 97½@4 02½
3...	— @ —	— @ —	— @ —

W. I. Dunkel & Co., proprietors of the Baltimore Dry Paint Works, Baltimore, Md., have something of interest to say to the readers of the Reporter in an advertisement which appears on another page of this issue. They are miners and manufacturers of dry metallic paints, and make a specialty of Venetian red and Spanish brown, whose quality they claim to be superior to most makes, and invite our readers to send for samples, prices, etc.

Directory of Paint Clubs in the United States.

Following is a list of officers and directors of paint, oil and varnish clubs of the United States:

NATIONAL PAINT, OIL AND VARNISH ASSOCIATION.

President—Howard B. French, Philadelphia.
Vice-Presidents—William Stridiron, Detroit; F. N. Sewell, Kansas City.
Secretary—D. Van Ness Person, Chicago.
Treasurer—William Agge, Boston.
Auditor—W. T. Seaton, New Orleans.
Directors—George E. Watson, Chicago; George B. Dexter, Boston; John H. McKelvy, Pittsburg; M. D. Eger, New York; Norris B. Gregg, St. Louis; M. J. Waugh, Lincoln; Frederick Renner, Cincinnati; Fred G. Elliott, Philadelphia; T. G. Dunnam, Cleveland.

PAINT AND OIL CLUB OF NEW ENGLAND.

(Organized Feb. 23, 1884.)

President—I. H. Wiley.
Vice-President—C. S. Fobes.
Secretary—Charles F. Hatfield.
Treasurer—William S. Cutler.
Executive Committee—John C. Howe, William Agge, Charles F. Howland, A. D. McClellan, G. B. Calder, J. W. Perkins, C. C. Lowell.

PAINT AND OIL CLUB OF PORTLAND.

(Organized Nov. 28, 1884.)

President—J. E. Goold.
Vice-President—L. W. Fobes.
Secretary and Treasurer—E. L. Everett.
Executive Committee—J. S. Conley, H. B. Pennell, W. P. Willey.

PAINT, OIL AND VARNISH CLUB OF NEW YORK.

(Organized Feb. 26, 1887.)

President—U. H. Patrick.
Vice-President—Wm. E. Lucas.
Secretary and Treasurer—W. B. Templeton.
Executive Committee—R Pyatt, Carl Merz, W H. Andrews, James Langmuir, S. V. V. Hunting ton, J. W. Co nston.

THE PAINT AND DRUG CLUB OF PITTSBURG.

(Organized May 24, 185)

President—A. C. Robertson.
Vice-President—W. W. Lawrence.
Secretary—Geo. F. Smith.
Treasurer—Chas. F. Wells, Jr.
Executive Committee—Composed of the officers.

PAINT, OIL AND VARNISH CLUB OF CHICAGO.

(Organized May 31, 1887.)

President—P. P. Senour.
Vice-President—A. G. Cox.
Secretary—D. Van Ness Person.
Treasurer—M. Rosenthal.
Executive Committee—M. L. Barrett, E. H. Haines, E. N. Bement and officers

ST. LOUIS PAINT, OIL AND DRUG CLUB.

(Incorporated June 1, 1887.)

President—Gustave J. Meyer.
Vice-President—James A. Heardon.
Secretary—M. L. Wieder.
Treasurer—Charles A. Stevens.
Directors—Melvin H. Stearns, H. V. Kent, W. H. Gregg, Jr., Robert Whitelaw, C. W. Blow.

THE PAINT CLUB OF PHILADELPHIA.

(Organized Oct. 21, 1887.)

President—William Waterall.
Vice-President—W. H. Wetherill.
Secretary—George B. Heckel.
Treasurer—S. K. Felton.
Executive Committee—Howard L. French, Charles H. Howell, Edward F. Beale, F. G. Elliott.

SYRACUSE PAINT AND OIL CLUB.

(Organized Dec. 4, 1888.)

President—Charles B. Everson.
Vice-President—C. A. Reeve.
Secretary and Treasurer—William Huench.
Executive Committee—Charles B. Everson, C. A. Reeve, William Muench, C. W. Snow, P. J. Mack.

DETROIT PAINT,OIL AND VARNISH CLUB.

(Organized Nov. 12, 1889.)

President—William P. Fuller.
Vice-President—William L. Davies.
Secretary—Thomas Neal.
Treasurer—William Boydell.
Executive Committee—William Reid, S. E. Pittman, F. H. Rogers.

THE CINCINNATI PAINT CLUB.

(Organized Dec. 21, 1889.)

President—L. L. Hearne.
Vice-President—W H. Miller.
Secretary—I. Gordon Taylor.
Treasurer—L. H. Bolce.
Executive Committee—John B. Swift, W. C. Peale and Herman Wolf.

PAINT, OIL AND GLASS CLUB OF NEBRASKA.

(Organized March 7, 1890.)

President—Frank B. Kennard.
Vice-President—F. E. Ritchie.
Secretary—M. J. Waugh.
Treasurer—S. B. Hayden.
Executive Committee—C. F. Weller, Wm. Cummings, C. J. Daubach and officers.

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(Organized March 13, 1890.)

President—H. D. Cutler.
Vice-President—H. W. Evans.
Secretary—Thos. Pain.
Treasurer—A. M. Hughes.
Executive Committee—Chas. Campbell, John A. McDonald, I. Lewis and officers.

BROOKLYN PAINT DEALERS' ASSOCIATION.

(Organized March 26, 1890.)

President—A. M. Montignani.
Secretary—Samuel M. Wood.
Treasurer—S. B. Kraus.
Executive Committee—Composed of the officers.

NEW ORLEANS PAINT CLUB.

(Oraganized —, 1890.)

President—B. F. Eshelman.
Vice-President—J. Watts Kearney.
Secretary—Maximilian Herrmann.
Treasurer—John M. Wiemann.
Executive Board—Geo. W. Hyde, T. W. Seaton, Chas. W. Mackie, J. W. Kearney, G. Pitard.

MILWAUKEE PAINT, OIL AND DRUG CLUB.

(Organized Nov. 6, 1890.)

President—Charles Baumbach.
Vice-President—J. E. Patton, Jr.
Secretary—George F. O'Neill.
Treasurer—Charles A. Meissner.
Executive Committee—C. H. O'Neill, David Hecht, J. E. Patton, Jr.

CLEVELAND PAINT, OIL AND VARNISH CLUB.

(Organized Sept. 3, 1891.)

President—A. M. Parks.
Vice-President—Fred A. Glidden.
Secretary and Treasurer—E. F. Van Zandt.
Board of Directors—A. Sherwood, Thos. F. Manning, H. B. Van Cleve, R. M. Morley.

DENVER PAINT, OIL AND VARNISH CLUB.

(Organized Jan. 28, 1892.)

President—B. C. Hubbell.
Vice-President—B. L. James.
Secretary—B. B. Brown.
Treasurer—B. L. James.
Board of Directors—J. J. McGinnity, E. P. Hallach and the officers.

SAN FRANCISCO PAINT, OIL AND VARNISH CLUB.

(Organized March 29, 1893.)

President—J. P. Jourdan.
Vice-President—J. O. Law.
Secretary—Saul Magner.
Treasurer—G. Ammerup.
Board of Directors—Charles M. Yates, R. M. Nason, S. H. Brown.

As soon as received we shall make corrections and include other clubs, and, as it is desired to keep a correct directory of the above, we ask the various clubs to notify us at once of any changes made.

Camphor.

Camphor is not the exclusive produot of any one natural order, genus, or species; but what is more remarkable, of closely allied species of camphor-yielding genera—one species possesses the secretion, while no trace of it is found in another. Although several kinds of camphor are articles of commerce, little, if any, reaches this country, save that obtained from Cinnamomum camphora (Camphora officinarum), a member of the laurel family, and of the same genus as the tree whose bark furnishes the spice called cinnamon. Like many other natural products of which scientific research has multiplied the applications, camphor is becoming dearer and scarcer, and the question has arisen, How is the supply to be maintained equal to the demand? The bulk of the camphor imported into Europe comes from Japan and Formosa, and comparatively little from China. This is the product from Cinnamomum camphora, and Dr. E. Grasman has published an interesting account of this tree, both from a scientific and commercial standpoint. He has rather overweighted the article with second-hand information respecting laurels generally and those of Japan in particular, which, as might be expected, is inaccurate in some details. Disregarding these, we find much that is interesting concerning the camphor tree itself, which is one of the noblest objects in the forests of eastern sub-tropical Asia. It attains gigantic dimensions, surpassing all other trees of the Japanese forests, at least in girth of trunk, if not in total height. Dr. Grasmann gives the recorded dimensions of various notable trees, but what is more to the point, he also gives measurements made by himself. A tree in the neighborhood of the town of Miyazaki, Oyodomura, measured in 1894, was 14.80 metres in circumference at 1.30 M. from the ground, or 4.4 M. in diameter, and it was 35 M. high.

There is an illustration of this giant reproduced from a photograph. Concerning the distribution of the camphor tree in Japan, the author states that it grows naturally in Kinshin up to about 34 degrees lat., and scattered in favorable situations some 2 degrees farther north, the extreme limit being 36 degrees, 24 minutes. It is abundant in the island of Formosa, and also occurs in the Tsusima and Luchu groups. On the mainland of China, according to Dr. Grasmann, it inhabits the coast region from Cochin-China to the mouth of the Yangtzekiang, and it may be added that it is now known to extend westward at least as far as Ichang in the central province of Hupeh. From Dr. A. Henry's notes accompanying his specimens in the Kew Herbarium, it appears that the wood is in great request, but no camphor is extracted; and Consul Playfair reported the same from Pakhoi, Kwangtung, in 1883. Indeed the camphor industry would seem to be at present very limited in China, although the tree is common and widely spread. The little that is exported is mostly from the province of Fokien, but the amount is increasing in the same measure as the production is decreasing in Japan. In the latter country something has been done to maintain the supply, but Dr. Grasmann holds that the present rate of planting is wholly inadequate. He urges the importance of increasing the plantations to the greatest possible extent, inasmuch as every part of the tree is useful, from the roots to the young shoots of leaves. Even the fruit is employed in the preparation of tallow. In Formosa camphor distilling has been carried on in the most recklessly extravagant manner imaginable. It is suggested that Japanese rule in the island may put a stop to such disastrous waste.

With regard to the increasing price of camphor, it has been stated in various publications that this is due to its being used in the manufacture of smokeless powder. In reply to inquiries on this point, Sir. Frederick Abel wrote to the director of Kew in November last as follows:

"Any increase of demand involving a rise in the price of camphor, is not due to its application as a constituent of smokeless powder. That material was used in the earliest days of the manufacture of a successful smokeless powder for artillery and small arms; but its employment was soon demonstrated to be attended with serious practical disadvantages, and its application for the purpose can therefore not be said to have been other than experimental, and of no great importance, even at that time, as affecting the market value of camphor. This substance has, however, been used extensively for many years past, and no doubt in continually increasing quantities, for the conversion of collodion cotton into the material known as celluloid, which is applied to the manufacture of imitation ivory, tortoise shell, horn, and a great variety of purposes."

CONTENTS.

EDITORIALS:
Answer of the N. W. D. A. in the Park Suit . 5
The Alkali Industry in Great Britain and America . 5
The Decision on Acid Magenta . 5
Uncertain Outlook for Window Glass . 5
The Out ook for Opium . 6
Discounts in Pharmaceuticals . 6
TRADE ITEMS . 6, 32
PETROLEUM NOTES . 7
OBITUARY:
John Kerry . 7
Leander Townsend Savage . 7
John Bayley . 7
Jules S. Abecasis . 7
MISCELLANEOUS:
Judgments Recorded . 7
Insurance Notes . 7
Receiver for Bossbardt & Wilson Company . 7
Pacific Coast Trade Items . 7
Decision on Acid Magenta . 8
Lead and Zinc Deposits of Iowa . 9
Pittsburgh Glass Market . 13
Cinchonidine and Homocinchonidine . 14
The Effect of Sunlight on Petroleum . 14
Senna and Its Adulterants . 16
The Free Alcohol Hearing . 16
Transportation Notes . 17
Petroleum Trade of Swatow . 17
Chicago Flaxseed Inspection . 17
Latest Tariff Decisions . 17
Sulphur and Petroleum in Louisiana . 17
The Electro ysis of Chlorides . 22
Mineral Production in 1895 . 27
British Chemical Industries . 27
Evaporation Test for Mineral Lubricating O . 28
Muriate of Potash as a Fertilizer . 28
Cork Grown in Louisiana . 28
Latest Patents . 28
Rates to the N. W. D. A. Meeting . 32
Visitors of the Drug Trade Club . 32
Grateful Retail Druggists . 32
The Theo. Ricksecker Co . 32
Directory of Paint Clubs in the United States 32
Determination of Caffeine in Tea . 42
Fuller's Earth in the Isle of Man . 48
MARKETS:
Paint Market . 10
Oil Market . 18
Naval Stores Market . 21
Philadelphia Chemical Market . 21
Petroleum Market . 22
Drug Market . 30
Chemical Market . 44
Dye Market . 48
Camphor . —

NAVAL STORES.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

Complete prices current will be found on page 35.

FRIDAY EVENING, July 3, 1896.

SPIRITS TURPENTINE.—The week opened with lower prices, occasioned by a dull demand, increasing stocks and early unfavorable advices from the South regarding values. Quotations were lowered a quarter cent Monday on all style packages. Later the reports from Savannah and other primary markets were firmer, and the closing tone to-day is stronger here, but this has failed to bring about a change in prices, which are 25½c. for regulars and 26c. for machines.

ROSIN.—Buyers this week took little or no interest in the market for rosins, and prices show no important fluctuations. At Savannah there was a steady demand, and the lower grades were in particularly good request. We quote: Strained to good, $1.67½@1.70; E, $1.77½@1.85; F, $1.85@1.90; G, $1.90@1.95; H, $1.97½@2; I, $2.05; K, $2.07½; M, $2.10; N, $2.20; W G, $2.30, and W W, $2.50.

TAR AND PITCH.—Business in these articles was depressed and only small parcels found an outlet, though, owing to moderate holdings here, sellers insisted on full prices. Quotations on tar are unchanged, at $1.65 for regulars and $3.20@3.25 for oil barrels. Pitch commands $1.85@1.90, as to quantity.

Charleston, S. C., July 2.

Turpentine firm at 23c. Rosin firm; A, B, C, D, E, $1.35; F, $1.40; G, $1.45; H, $1.50; I, $1.55; K, $1.60; M, $1.70; N, $1.80; window glass, $1.90; water white, $2.00.

Savannah, Ga., July 2.

Spirits turpentine firm at 23¼c. bid; sales, 588 bbls. Rosin firm at $1.50.

Wilmington, N. C., July 2.

Rosin firm; strained, $1.32½; good strained, $1.37½. Spirits turpentine steady; machine, 23c.; irregular, 22½c. Tar firm at $1.20. Crude turpentine firm; hard, $1.30; soft, $1.70; virgin, $1.80.

Liverpool, July 2.

Spirits turpentine steady at 19s. 9d. Rosin—Common firm at 4s. 9d.

London Turpentine Statistics.

Messrs James Watt & Son, London, furnish the following turpentine statistics:

	1896.	1895.	1894.
Stock June 20..	9,745	9,320	17,085
Del. this week.	1,370	1,358	1,015
Since Jan. 1...	44,376	33,473	41,531
Price June 20..	20s.	22s.	22s. 6d.
Sept.-Dec.	19s. 6d.	22s.	22s. 6d.
Jan.-April	20s. 3d.	22s. 6d.	23s. 3d.

A. G. Holmes has erected a turpentine distillery at Rosindale, N. C.

Charles F. McKenna, Ph.D., is prepared to make chemical, physical and mechanical tests of materials in technical use, having a full and most complete outfit for experimental work. Those requiring the services of a consulting chemist should confer with Mr. McKenna.

WANTS.

SPECIALS OR NOTICES *in this column are at the rate of Two Dollars for each insertion—for eight lines or less. All over eight lines Twenty-five cents per line of about six words. The full amount in cash must accompany all orders.*

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Let Us Hear from You.

PETROLEUM MARKET.

FRIDAY NOON, July 3, 1896.

The week in which occurs the national holiday is always one in which business is affected by reason of so many business men leaving the city for rest and recreation. This has thinned the ranks of the habitues of the exchange, but has probably not affected speculative business in certificates, as that has been for some time the smallest possible and yet leave a semblance of life. The only matter of especial interest has been the monthly field report, which, while not showing material change in the field situation, was still scanned with much interest by those who sought either bull or bear points. There was an increase in the number of wells completed and a small increase in new production, but there was a decrease shown in new development work under way. The report tended to strengthen the market, not owing to any bullish factor, but because it failed to present decided bear features, which, by some, had been confidently expected as a result of active work during a month most favorable to field operations. The statistical situation continues bearish, the difference between runs and deliveries being larger than last month, and the stocks in possession of the pipe lines are increasing steadily.

Following is given the opening, highest, lowest and closing figures for each day, in tabulated form for comparison:

	Opening.	Highest.	Lowest.	Closing.
Monday	113½	113⅝	113⅛	113⅜
Tuesday	114	114	114	114
Wednesday	115	115	115	115
Thursday	116⅛	116⅛	115⅞	116⅛
Friday	115⅛	115½	115⅛	115⅛
Saturday	—	—	—	—

Following is the range of prices of National Transit certificates during the corresponding week last year:

July 1	150	@ —
" 2	150	@151½
" 3	154	@ —
" 4	—	@ —
" 5	145	@ —
" 6	145	@ —

Refined and Products.

The demand for refined in barrels for export has been fairly active, the engagements during the week exceeding those during the preceding month. This has been due more to the requirements abroad for containers than to a change in freights, the latter showing no material change. On the other hand, the engagements for bulk shipment have been comparatively light, as but few of the tank vessels are on this side. The total engagements exceed 200,000 bbls., a good proportion of which are for barreled oil. The price for barreled oil has remained steady at 6.90c. for New York loading, and 6.85c. for Philadelphia loading. Bulk oil is nominal at 4.40c. here and 4.35c. at Philadelphia. The principal foreign markets are steady. To-day's quotations by cable were: Antwerp, 17¼f.; Bremen, 6.25m.; London, 5⅝d., and Liverpool, 5⅝@5½d. Freight rates are steady at 1s. 9d.@2s. hence to London, and 1s. 9d.@2s. 9d. to Continental ports, as to port and vessel. Home trade lots have been in light request, and are firm on a basis of 9⅝c. for 150 degrees water white from tanks, and 10⅞c. for barrels.

Cases for export have been in active request, and sales of about 350,000 are reported. The price for plain tops has been steady at 7.80c. Freight rates are steady. The nominal rates for large vessels are: For Amoy, 17@18c.; Bombay, 14½@15c.; Calcutta, 13½@14c.; Colombo, 14½@15c.; Hong Kong, 17@18c.; Japan, 18@18c.; Java, 17@17½c.; Penang, 17@18c.; Rangoon, 17@18c.; Saigon, 17@18c.; Shanghai, 21@21½c.; Singapore, 16@17c.; Yokohama, 18½@19c.

Crude for export has been in good request, and sales of about 50,000 barrels are reported. Washington crude is quoted at 6.90 in barrels. Cases of export have been neglected, and no sales are reported.

Prime city naphtha has remained steady at 7.50c. For export no sales are reported.

Closing Quotations.

CRUDE

National Transit Certificates, ₩ bbl	1 15¼@
Washington crude in bbls, ₩ gal	6·90
" bulk	4·40
Residuum, bbls. for export	4¼@4⅜

REFINED—FOR EXPORT.

Cargo lots for export, ₩ gal	—@ 6·90
Philadelphia loading	—@ 6·85
bulk	—@ 4·40

REFINED—JOBBING LOTS.

In barrels, pkgs. included.

110 fire test, S. W., ₩ gal	9⅜@—
120 fire test, S. W.	9⅝@ 9½
130 fire test, S. W.	— @ 9⅝
150 fire test, W. W.	— @10⅝
in bulk from tanks	9⅝@ 9½
300 fire test	9 @ 9⅛

REFINED IN CASES—110 FIRE TEST.

Two-five low screw, cargo lots	7·80
5,000 to 10,000	7 90
1,000 to 5,000	8 00
700 to 1,000	8·10
400 to 700	8·20
300 to 400	8 30
200 to 300	8·40
100 to 200	9 20
Under 100	9 80

NAPHTHA AND GASOLENE.

Naphtha, crude, cargo lots, 68@72 deg.	@ 7·50
Naphtha, crude, car lots, 68@72 deg.	@ 7·50
Naphtha, crude, 70 deg.	7¾@ 8
sweet, 62 or 63 deg.	8¼@ 8⅝
70 deg.	9¼@ 9⅝
76 deg.	9¼@ 9⅝
"stove"	10¼@10⅝
Gasolene, 86 deg.	13 @14
88 deg.	15 @16
90 deg.	18 @19

Petroleum Statistics.

RUNS—TOTAL AND AVERAGE

		Day.	Total.	Av'age
Friday June	26	108,112	2,328,686	89,565
Sat.-Sun. "	27&28	119,960	2,448,646	87,452
Mon. "	29	141,413	2,590,059	89,312
Tues. "	30	146,171	2,736,230	91,207
Wed. July	1	102,083	102,083	102,083
Thurs. "	2	.....	.....	.....

	1894.	1895.	1896.
January	2,546,630	2,410,393	2,676,196
February	2,282,579	2,031,876	2,473,288
March	2,602,033	2,454,663	2,676,264
April	2,441,254	2,564,066	2,879,608
May	2,599,765	2,529,043	2,889,612
June	2,578,636	2,447,140	.....
July	2,578,389	2,643,706	.....
August	2,554,649	2,707,777	.....
September	2,412,953	2,642,995	.....
October	2,575,647	2,672,354	.....
November	2,409,665	2,613,857	.....
December	2,480,211	2,688,823	.....
Year	30,062,391	30,406,663	.....
Average	2,505,199	2,533,891	2,708,993

DELIVERIES—TOTAL AND AVERAGE.

		Day.	Total.	Av'age
Friday June	26	83,852	1,828,481	70,326
Sat.-Sun. "	27&28	112,969	1,941,450	69,333
Mon. "	29	54,549	1,995,999	68,827
Tues. "	30	77,606	2,073,605	69,120
Wed. July	1	80,488	80,488	80,488
Thurs. "	2	.....	.....	.....

	1894.	1895.	1896.
January	3,132,954	3,135,235	2,532,604
February	2,650,652	2,801,202	2,248,403
March	2,910,153	2,604,541	2,436,008
April	2,845,162	2,779,235	2,223,092
May	2,862,999	2,845,334	2,418,494
June	2,910,919	2,815,470	.....
July	2,905,783	2,643,880	.....
August	3,256,302	2,423,111	.....
September	2,963,243	2,320,412	.....
October	3,262,209	2,568,204	.....
November	3,197,929	2,845,565	.....
December	3,276,165	2,401,057	.....
Year	36,383,531	32,004,214	.....
Average	3,031,960	2,667,018	2,371,708

CHARTERS—TOTAL AND AVERAGE.

		Day.	Total.	Av'age.
Friday June	26	60,952	2,094,218	80,547
Sat.-Sun. "	27&28	118,889	2,213,107	79,040
Mon. "	29	96,033	2,309,139	79,625
Tues. "	30	134,921	2,444,060	81,468
Wed. July	1	81,230	81,230	81,230
Thurs. "	2	79,960	161,190	80,595

	1894.	1895.	1896
January	2,010,907	1,853,334	1,834,675
February	1,570,196	1,004,226	1,759,056
March	1,672,955	1,412,104	2,231,547
April	1,683,326	1,639,165	1,755,524
May	1,717,735	1,371,779	1,929,212
June	2,023,921	1,674,672	2,444,060
July	2,315,374	1,886,548	.....
August	1,880,134	2,147,501	.....
September	2,314,294	2,249,122	.....
October	3,104,635	2,499,708	.....
November	2,023,852	1,914,132	.....
December	2,105,072	1,559,042	.....
Year	24,422,901	21,211,333	.....
Average	2,035,242	1,767,611	1,992,345

CHARTERS FOR THE WEEK.

The total charters for refined in barrels and cases, crude in barrels and cases, naphtha, &c., during the week ending July 3, and from January 1, were as follows:

	Week.	Year.	1895.
Refined, bbls.	209,400	4,862,200	4,737,300
Refined, cases	349,000	9,743,000	2,807,000
Crude, bbls.	57,000	929,900	834,100
Crude, cases	.....	66,000	27,000
Naphtha, bbls.	.....	29,900	68,400
Residuum, bbls.	.....	.....	10,000
Lubricating, bbls.	.....	39,500	14,000
Barrels, eq.	511,032	11,990,621	9,442,774

CLEARANCES FOR THE WEEK.

During the week ending July 3, and since January 1, the clearances of petroleum, in gallons, from the port of New York were as follows

	Week	Year	1895.
Refined	9,296,325	231,752,605	214,628,312
Crude	.....	518,534	1,834,103
Naphtha	325,481	2,293,410	2,066,944
Residuum	.....	48,200	28,675

EXPORT STATISTICS.

The following table shows the total exports from the port of New York and from the United States reduced to crude equivalent, in gallons for the week ending July 3; also total shipments to date, with comparisons with 1895:

From N. Y. for week ending July 3	12,295,100
Total from N. Y. from Jan. 1, 1896	309,522,041
Same period last year	289,138,514
Increase	20,383 527
From U. S. for week ending July 3	21 463,894
Total from U. S. from Jan. 1, 1896	513,302,167
Same period last year	502,831,743
Increase	10,470,424

TOTAL EXPORTS FROM DIFFERENT PORTS

	1896.	1895
New York	309,522,041	259,138,514
Philadelphia	177,265,902	182,074,578
Baltimore	25,519,582	30,819,380
Boston	713,145	497,536
San Francisco	291,497	301,614
Grand total	513,302,167	502,831,743

CAPACITY OF VESSELS LOADING.

The following table gives the capacity of the vessels loading petroleum at the ports of New York and Philadelphia on July 3:

	NEW YORK.		PHILADELPHIA	
	Bbls.	Cases.	Bbls	Cases.
Refined	120,000	1,400,000	71,000	359,000
Crude	....	....	14,000	....
Naphtha	4,500	....	....	....
Lubricating	....		8,500	....

Foreign Quotations.

REFINED

	Antwerp.	Bremen.	London
Monday	17¼@—	6·10	—@5⅜
Tuesday	17¼@—	6·10	—@5⅜
Wednesday	17¼@—	6·20	—@5⅜
Thursday	17¼@—	6·25	—@5⅜
Friday	17¼@—	6·25	—@5⅜
Saturday	17¼@—	6·25	—@5⅜

PETROLEUM CHARTERS.

New York.

Following is a list of vessels chartered and loading or to load petroleum at New York, Philadelphia, Baltimore and Boston. Quantities refined in bbls. unless stated otherwise:

Feb. 28

Br bk, Rangoon, 18c ..... cs 62,000

March 7

Br shp, Shanghai, 19c ..... cs 70,000

March 11

Br shp, Japan, 16@17c ..... cs 70,000

March 13

Br bk, Shanghai, 18½c ..... cs 45,000

March 16

Br bk, Hong Kong, 15½c ..... cs 75,000

April 15.

It bk, Java, 15½c ..... cs 50,000

April 22

Br ship, Java, 16½@18½c ..... cs 55,000

April 25

Fr bk, Java, 17c ..... cs 50,000

April 30

Br shp, Hong Kong, 16½c ..... cs 50,000

May 1

Dch bk Concordia, Java, 17@19 ..... cs 45,000

May 2

Br shp Alice A. Leigh, Shanghai, 21c ... cs 120,000

May 4

Dch bk, Java, 17@19c ..... cs 40,000

May 9

Br str Ancona, Shanghai, 27½c ..... cs 125,000

May 16

Br str Queen Olga, Yokohama, 27c ..... cs 120,000

May 21

Br shp Buccleuch, Japan, 18½@19½c ... cs 85,000

May 23.

Br shp, Shanghai, 21c ..... cs 90,000

May 25.

Nor bk, Baltic, 2s 6d 7,000

May 28.

Br str, Red Sea ports, 22½c ..... cs 100,000

June 1

Br str Norman Isles, Shanghai, 27½c ... cs 135,000
Br bk, Japan, 18@19c ..... cs 50,000

June 2

Br bk Saratoga, Shanghai, 21½c ..... cs 95,000
Ger bk Santiago, Reunion, 30c ..... cs 18,000

June 3

It bk Maria Accame, Penang or Singapore, 15½c, 2 ports 16½c ..... cs 45,000

June 4

Am shp St. Paul, Japan, 18@19c ..... cs 70,000
Am shp R. D. Rice, Japan, 18@19c ..... cs 80,000
Br shp Ardmore, Bangkok, p. t ..... cs 40,000

June 6

Br str Howick Hall, Shanghai, 27¾c ... cs 150,000
Br shp Jumna, Calcutta, 14c ..... cs 40,000
Br shp Colgate, Shanghai, 21½c ..... cs 90,000
Br shp Bangalore, Java, 17½c ..... cs 70,000

June 8

Br shp Cedric the Saxon, Java, 17½c ... cs 75,000
Am shp Pactolus, Japan, 18@19c ..... cs 85,000
Br shp John D. McDonald, Shanghai, 21c. cs 60,000

June 9

Br shp Cleverdon, Shanghai, 21½c ..... cs 110,000

June 10

It bk Clementina, Cork, 2s 4½d 4,000

June 13

Br shp Glenfinart, Shanghai, 21½c ..... cs 70,000
Br shp Stronsa, Shanghai, 21½c ..... cs 80,000

June 15

It bk Amello Gaiatolo, Soderteige, pt .. nap 4,500

June 17

Am bk Louise Adelaide, Coleraine, 2s 10½d 4,000

June 19

Am shp Tacoma, Hong Kong, 17½c ..... cs 60,000

June 20.

It bk Draguette, Java, 17@19c ..... cs 35,000

June 24.

Nor bk Autocrat, Plymouth, 2s 5d 4,400

June 26.

Br shp, Java, 17½@19½c ..... cs 65,000

June 27.

Nor bk, Ipswich, 2s 10½d 3,500
Am bk Antonia, Brazil, ... cs 30,000

June 30.

Ger shp, London, 2s 3d 9,500
Ger bk Standard, Dublin or London, 2s 3¾d. 9,500
Ger bk, Avonmouth, 2s 4½d 7,200
Br bk, London or Avonmouth, 2s 4½d 9,000
Ger bk Marie Seidenburg, Avonmouth, 2s 4½d 8,000

July 2.

Br str, Bombay, 23c ..... cs 110,000
Br shp, Hong Kong, 18c ..... cs 80,000

Philadelphia.

Sept 4

Br shp Record, Dunkirk, 2s 4½d ..... cde 10,000

Sept 12

Ger str Hermann, Fiume, pt ..... cde 10,000

Oct 28

Br bk, Calcutta, 13c ..... cs 125,000

Nov 25

Br str John Bright, U K or Cont, 2s 7½d ... 10,000

Jan. 9.

Port bk, Exmouth, pt 2,700

March b

Br shp Palgrave, Calcutta, 12c ..... cs 132,000
Br bk Vimeria, Japan, 16½@17½c ..... cs 90,000

March 11

Ger bk Albert, Rickmers, Japan, 16½@17½c ..... cs 100,000

March 23.

Br shp Juteopolis, Calcutta, 12c ..... cs 100 000

March 25.

It bk Gin, w c Italy, pt ..... cs 30,000

April 2

Aust str, Italy, p. t ..... cs 45,000

April 8

Ger shp, Stettin, 1s 10½d 8,500

May 7

Br bk Andorinha, Calcutta, 13½c ..... cs 120,000

May 11

Br str Ancona, Shanghai, 21c ..... cs 100,000

May 18

Ger bk Concordia, Java, 17@19c ..... cs 45,000

May 20

Fr bk Ville de Diepe, French port, blk. cde 14,000

May 21

Br bk Juteopolis, Calcutta, 13c ..... cs 126,000

May 22

Br str Ettricksdale, Shanghai, 27½c ..... cs 125,000

June 1

Dch shp Emmanuel, Dunkirk or Dieppe, 2s ..... cde 10,000
Am shp State of Maine, Shanghai, 21c ... cs 55,000

June 8

Nor bk Autocrat, Aalborg, 2s 3d 4,000
Br str James Brand, French port, bulk 36,000

June 9

Am shp Susquehanna, Japan, 18½@19½c ..... cs 75,000
Nor shp Kelstadt, Swedish port, 2s 1½d 8,500
Br bk Bristol, Dunkirk, 2s 3d ..... lub 8,500

June 18

Br str Oceano, Bombay, 23c ..... cs 125,000

June 20.

Am ship Eureka, Japan, 17c ..... cs 75,00

June 23

It bk Parenti, St Louis du Rhone, 2s 3d cde 4,500

June 25.

It bk Jamaica, Sicily, 2s@12½c ..... cs 27,000

July 1.

Br str Montauk, Dunkirk or Dieppe, 2s 1½d ..... cde 16,500
Am bk Neptune, Lisbon, 3s 2,800
Ger bk, Japan, 18½@19½c ..... cs 80,000

July 2.

Br str, Dunkirk, 2s 4½d ..... cde 16,500

PETROLEUM CLEARANCES.

Following are the clearances of petroleum from ports of New York, Philadelphia, Baltimore, Boston and San Francisco, on the dates named. Refined unless otherwise specified:

New York.

June 22.

Br str Alvena, Hayti, 50 cs

June 23.

Br str American, Port Elizabeth, 2,400 cs
Br str American, East London, 350 cs
Br str American, Cape Town, 2,540 ref & 10 cs nap
Br str American, Biera, 65 cs
Br str American, Port Natal, 6,875 cs
Br str American, Algoa Bay, 1,325 cs

June 24.

Nor str Samo, Port Limon, 65 cs
Am str Philadelphia, Curacoa, 402 cs & 5 bbls
Am str Philadelphia, La Guayra, 1,955 cs
Am str Philadelphia, Porto Cabello, 1,118 cs
Am str Philadelphia, Maracaibo, 3 cs
Br str Portia, St Joan, 200 bbls & 170 cs ref & 1 bbl gas
Br str Wilcannia, Port Natal, 550 cs
Br str Wilcannia, East London, 550 cs
Br str Wilcannia, Cape Town, 1,150 cs
Br str Wilcannia, Delagoa Bay, 350 cs

June 25.

Br str Obiron, Port Natal, 15 dms nap
Br str Obiron, Mauritius, 10,000 cs
Bort str Peninsular, Lisbon, 50 cs nap

June 26.

Br str Madiana, West Indies, 2,320 cs
Br str Alene, Cartagena, 772 cs
Br str Alene, Savanella, 20 cs ref & 1 cs gas
Br str Alene, Kingston, 45 cs

June 27.

Nor bk Phyllis, Dunedin, 3,000 cs ref & 50 cs ben
Nor bk Phyllis, Lyttleton, 1,000 cs
Br str Phosphor, Hamburg, 952,000 gls blk
Br str Mozambique, Calcutta, 93,200 cs
Am sh Dan'l Barnes, Zanzibar, 51,000 cs
Am bk Bonny Doon, Rio Janeiro, 15,000 cs

June 29.
Am sch Meron, Santos, 15,200 cs
Ger str Excelsior, Flushing, f. o., 1,600,000 gls blk
Br str Castillian Prince, Rosario, 1,000 cs
June 30.
Br str Potomac, London
Ger sh Fidelio, London, 1,550 bbls ref, 6,286 bbls nap & 500 cs gas
Am bk Jennie Harkness, Saigon, 49,000 cs
July 1.
Ger str Schleswig, Hayti, 500 cs ref & 300 cs gas
Am str Advance, Colon, 64 cs
Br str Picqua, Havre, 500 cs
Br sh Falls of Garry, Anjier, f. o., 70,000 cs
Am bkt Daisy Reed, Bahia, 10,500 cs bbls
It bk Lacaruna, Waterford (Ireland), 4,573
Ger bk Saturnus, Konigsberg (Germany), 3,408 bbls
Am str Reaper, Anjier, f. o., 49,500 cs
Nor str Baracoa, Port Limon, 25 cs & 10 bbls
Am sch Wm E Clowes, Georgetown, 1,500 cs

Philadelphia.

June 20.
Br str Weehawken, London, 1,267,221 gls blk
Br str Miami, Havana, 10,000 cs cde
Br str Beacon Light, Dover, f o, 1,317,614 gls blk
June 23.
Br sch Roberts and Russell, Hope Town, 4 bbls
June 25.
Ger str Standard, Flushing, f o, 1,277,938 gls blk
Br sh George Curtis, Nagasaki, 65,500 cs
Ger str Gulheil, Flushing, f o, 1,200,000 gls blk

Baltimore.

June 22.
Br str Henri Reith, Antwerp, 988,033 gls blk

Boston.

June 26.
Str Yarmouth, Yarmouth, 3 bbls
June 27.
Sch Glenera, St John, N B, 75 bbls

San Francisco.

May 28.
City of Sydney, Central America, 390 cs
City of Sydney, Mexico, 15 cs
Transit, Honolulu, 500 cs
June 1.
Galilee, Tahiti, 62 cs
Galilee, Taiohoe, 13 cs
June 2.
Orizaba, Mexico, 47 cs ref and 1 cs ben
S G Allen, Honolulu, 10 cs ref and 20 cs gas
June 5.
Jennie Herschel, Island, 198 cs
June 11.
Vine, Central America, 393 gls
Vine, Caroline Islands, 38 cs

EXPORTS OF PETROLEUM.

FROM THE PORT OF NEW YORK.

	Refined. Week ending July 2, 1896	Jan 1 to July 2, 1896	Jan. 1 to July 4 1895.
Aalborg		251,450	237,647
Aarhuus		433,150	1,282,700
Acajutla		3 500	4,706
Adelaide		1,190,796	897,147
Aden		251,500	150,000
Alexandria		815,040	
Algiers		215,000	615,000
Algoa Bay	13,250	162,950	125,945
Alleppey		60,000	
Amoy		547,000	650,000
Amsterdam		9,290,000	
Anjier, f. o	662,890	5,416,940	6,787,090
Antigua		26,690	27,020
Antofagasta		40,200	29,000
Antonina			174,970
Antwerp		5,160,000	4,685,988
Arica		54,000	67,000
Aspinwall		3,000	
Auckland		198,910	123,472
Avonmouth		3,030,000	3,200,000
Azores		73,590	49,355
Bahamas		7 127	1,600
Bahia		444 260	802,340
Banda, f. o.			132,300
Barbadoes		263 500	443,290
Barranquilla		70,310	7,540
Beira	650	5,150	
Belfast		1,700,000	
Belize	6,500	57,700	45,030
Berbice			10,000
Bermuda		122,550	57,540
Bluefields		83,032	15,040
Bocas del Toro		9,450	36,170
Bombay		470,000	908,640
Bremen		12,000	15,000
Brisbane		770,000	703,140
Bristol		15,250	20,700
Buenos Ayres		3,563,530	2,881,540
Cabedello		80,000	
Calcutta	932 000	4,753,530	11,024,510
Callao		200,450	72,120
Campeache	370	2,250	2,310
Canary Islands—		597,020	377,000
Cape Gracias		1 550	2,890
Cape Town	37,200	481,400	474,690
Carlskrona			208,904
Cartagena		64,570	97,723
Carupano		25,550	23,650
Cayenne		8,100	
Ceara		120,720	128,900
Champerico		6,500	2,550
Chefoo		505,000	495,000
Chittangong			550,000
Christiana			711,800
Ciudad Bolivar		20,300	46,841
Coleraine			209,908
Colon	1,240	121,370	114,368
Conal		15,000	
Copenhagen		2,068,201	1,877,751
Corinth		15,000	11,500
Cork		129,450	
Coro		12,060	15,811
Cuba		10,479	13,095
Cumana		3,950	7,450
Curacoa	4,875	97,610	75,602
Danzig		417,922	
Delagoa Bay	3,500	226,800	55,410
Demerara		188,650	249,350
Desterro		268,000	90,000
Domenica		8,790	16,520
Dover f. o		9,416,122	82,604,680
Dublin		1,287,196	2,164,407
Dunedin	30,000	283 000	534,050
Dunkirk			392,810
Dutch Guiana		26,000	45,000
East London	9,000	225,950	207,100
Esbjerg		94,701	
Exmouth			228,985
False Point			714,000
Flushing f. o	3,300,000	56,051,092	2,930,000
Fredericia			263,950
Fremantle		296,250	98,400
French Guiana		2, 00	
Gefle			584,300
Gibraltar		468,030	156,500
Grand Cayman		25,500	
Grenada		25,400	60,300
Greytown		129,100	68,510
Gothenburg		721,104	808,305
Guadaloupe		107,801	83,405
Guayaquil		154,000	82,000
Guanta		47,300	12,650
Haiphong		516,210	
Halifax		14,000	20,550
Hamburg	952,000	1,958,400	100,000
Hayti	100	431,732	304,300
Hernosand		410,150	182,099
Hiogo		489,430	965,000
Hodeidah		550,000	430,000
Hong Kong		7,075,390	6,010,070
Honolulu		300,000	300,000
Hook of Holland		1,570,000	
Hudekwale			90,160
Hull		1,300,000	15,500
Inagua			2,200
Ipswich			123,599
Iquique		7,500	87,500
Iquitos		9,650	2,200
Jaddah		100,000	
Jamaica		468,870	262,459
Java			395,920
Kolding			126,750
Kurrucnee		1,021,180	
La Guayra	19,550	263,460	147,390
La Union			7,500
Laguna		300	110
Limerick		275,000	190,000
Lisbon		388,446	23,722
Liverpool		6,416,166	4,727,750
Livingston	1,450	24,300	15,286
London	1,678,850	18,203,850	8,900,731
Londonderry		200,000	
Lyttelton	10,000	258,500	103,600
Macassar		796,170	
Maceio		365,000	235,120
Madeira Islands		66,000	16,000
Manaos	17,290	140 324	106,370
Manchester			900
Manzanelo		2,000	
Maracaibo	30	271,456	86,730
Maranham		152,900	111,205
Marseilles			5,000
Marautius	100,000	172,500	54,220
Martinique		87,350	77,500
Melbourne		2,980,680	2,378,240
Mollendo		36,000	5,000
Molucco Is—		172,220	
Montivideo		1,874,300	1,536,778
Montserrat		4,220	2,600
Mossel Bay		8,000	
Munchen			38,012
Napier			32,640
Nassau		63,085	32,310
Nelson		10,000	
Newcastle Eng			20,250
New Castle, Aust		75,500	
Norrkoping			250,000
Odense			116,250
Old Providence		3,050	1,000
Oporto		240,000	765,395
Oran			370,000
Padang		320,510	
Para	75,500	640,027	175,610
Pacassamayo		3,000	
Payta		6,500	1,000
Pelotas		87,630	
Penang		896,720	402,500
Pernambuco		1,352,540	807,700
Phillippine Is		567,260	254,000
Pimental		1,250	
Pisca		5,500	2,000
Plymouth		1,275,000	
Point a Pitre			15,000
Pt de Bouc		401,250	
Port Elizabeth	24,000	272,550	231,220
Port Limon	650	53,450	69,211
Port Louis			115,000
Port Marie		11,702	15,31
Port Natal	74,250	476,320	318,200
Portishead		313,438	
Porto Alegre		40,000	
Porto Cabello	11,180	217,431	186,732
Porto Rico		103,220	102,735
Pozzuoli		170,300	
Progresso		5,500	4,250
Puerto Barrios	100	7,100	5,308
Puerto Cortez		59,840	8,873
Punta Arenas		19,500	69,255
Rangoon		1,487,810	544,560
Rio Grande do Sul		30,000	463,870
Rio Janeiro	150,000	2,344,580	1,398,300
Rosario	100,000	853,255	552,000
Rotterdam		18,584,756	10,546,000
Saigon	490,000	996,800	956,450
Salaverry		2,500	
Samana			250
San Andreas			250
San Domingo		210,936	188,402
San Jose		34,000	
Santos	152,000	2,188,500	822,000
Savanilla		76,722	108,095
Shanghai	15,464,360		4,940,190
Sierra Leone		10,000	18,400
Singapore			912,010
Sligo (Ireland)		180,148	

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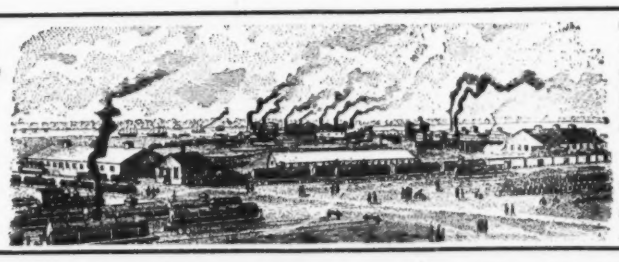

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James D. Fowler, As. Sec.

Soderteije			102,000
Southampton			25,000
Stockholm			1,386,628
St. Andrews		280	
St. Barths			250
St. Croix		25,963	22,865
St Johns, N. F.	16,500	180,623	141,521
St. Kitts		53,131	55,306
St. Lucia		17,101	29,032
St. Martha		4,000	
St. Martins		5,740	2,890
St. Michaels			11,010
St. Pierre, Miq		3,140	19,171
St. Thomas		18,030	21,171
St. Vincent		20,260	19,000
Sundsvall		421,450	300,000
Svendborg		173,700	
Sydney		1,418,000	1,066,216
Surinam		30,000	68,000
Talcahuano		1,387,850	927,000
Tamatave		50,000	
Tampico		2,700	2,100
Tobaga		100	
Townsville		90,000	
Tralee, (Ireland)		169,250	
Trinidad		309,110	250,956
Truxillo		8,210	7,760
Turks Island		29,030	2,677
Uddervalla			500,050
Valparaiso		366,300	1,084,030
Venice		1,400,000	
Vera Cruz		550	8,432
Victoria		90,000	34,000
Waterford, (Irel'd)			250,950
Wellington		270,500	456,880
Yokohama		8,297,400	3,580,240
Zanzibar	510,000	1,232,600	1,701,510
Total	9,296,325	231,662,546	207,776,684

Crude.

Baracoa		814,086
Buenos Ayres		15,500
Havana	518,534	776,115
Jamaica		51
Montividio		1,000
Porto Rico		60,000
Soderteije		165,600
Tampico		2,300
Trindad		5
Total	518,584	1,838,608

Naphtha.

Adelaide	1,700	3,500
Algoa Bay	116	
Arica		10
Auckland		2,678
Bahia	600	625
Barbadoes	15	
Bermuda	11,235	9,893
Bluefields		156
Buenos Ayres	10,127	56,590
Cape Town	100 846	240
Cartagena	19	
Carupano	250	
Ciudad Bolivar	10	
Coleraine		150
Corinto	400	
Cuba		40
Curacao	527	255
Demerara	3,000	
Dunedin	480 2,990	250
Dunkirk		40,792
Exmouth		51,094
Gefle		2,500
Gothenburg	60,956	49,980
Greytown	50	
Hayti	41,845	40,985
Honolulu	350	100
Jamaica	20	1,928
La Guayra	30	
Lisbon	500 1,975	1,925
Liverpool	964,174	225,000
London	332,360 824,360	1,129,895
Manaos	1,900 9,800	11,610
Maranham	95	
Melbourne	12,700	8,138
Montevideo	1,133	1,972
Para	7,085	60
Pernambuco		50
Port Elizabeth	70	
Port Limon	30	140
Port Natal	150 946	
Portishead	254,300	
Porto Cabello	100	
Porto Rico	50	64
Rio Grande do Sul		1,000
Rio Janeiro	38,122	7,850
Rosario		385
San Domingo	1,210	1,810
San Jose	20	
Santos		8,000
Savanilla	71	51
Shanghai		20
Soderteije		160,000
St. Croix	90	144

(Continued on Fourth Column.)

INDUSTRIAL SECURITIES.

As usual during the week in which occurs the national holiday business has been very quiet, having been in part restricted by a general relaxation from business cares during the past two days and by absence of many who seek to escape from the city at this season and avoid the annoyances incident to a celebration of the natal day in a great city. This dullness has extended to all classes of trade, though otherwise the conditions affecting trade have shown no change—certainly none for the better. The labor situation has become very threatening, and strikes are reported from various sections. In Cleveland the situation is quite serious and the military has been called upon to quell disturbances. It is believed that the strike there will extend and involve various trades. Several strikes are reported from the coal regions, as the result of disputes over the wage rate. Employees in several important rolling mills at the West are demanding an increase of wages, and two strikes have already been the result. In this city the tailors and garment workers contemplate a strike, and it is expected that all branches will be included in this strike, which, it is claimed, has been fully decided upon. The prices of the principal agricultural staples have been lower, though on Friday a firmer tone was noticeable. Wheat opened at 61⅛c., and receded to 60¼c., but later gained in strength, and closed on Friday at 61⅜c. Corn has not varied greatly, the range having been 33⅛@33¾c., and the close was at 33¼c. Oats have varied from 20⅛c. to 20⅜c., closing at the outside. Cotton has been depressed all the week, and closed at the lowest point, 7.10c. Lard has again sold below 4c., and, although there have been variations, the price was weak, dropping to 3⅞c. after every rally. The market for time money has been easy with the demand only moderate. The rates have been steady at 3 per cent. for thirty to sixty days; 3½ per cent. for ninety days to four months, and 4 per cent. for five to six months. Money on call at the Stock Exchange has varied from 2 to 4 per cent., though the higher rate was obtained on Monday only, and the average for the week was 2½ per cent. Mercantile paper has sold to a moderate extent, though the demand has been almost entirely on local account. Rates have been firmer, at 4½ per cent. for sixty to ninety days' indorsements, and 4½@5¼ per cent. for four months' acceptances. The shipments of gold during the past week were not large, amounting to only $2,500,000, but there was another withdrawal of gold from the Sub-Treasury which excited some comment, although the amount was only $250,000. The price of silver has declined during the week, and at the close commercial bars were quoted at 68⅝@69¾c per ounce, and government assay bars at 68⅝@69⅝c. The market for sterling exchange has been dull and easy all the week, although rates have varied little, and the posted rates have remained unaltered. At the close the rates for actual business were 4.87 for sixty days, 4.88 for demand, and 4.88¼ for cables. The supply of grain and cotton bills has been moderate throughout the week. Rates have been easier, and closed at 4.86¼@4.86½. The Industrials, Rubber alone excepted, again show a decline. This was due to a concerted raid on this class of securities at a time when the general market was decidedly weak. The other securities dealt in on the Stock Exchange have varied from day to day, but the tone, taking the entire week, has been weak.

Sugar stock declined steadily during the week, at first supposed to be on liquidation, but later it became known that insiders were unloading, and the reason stated was the prospect of a victory for silver at Chicago. Whatever the cause, the insiders endeavored to cover their transactions and make it appear that they had full confidence in the stock. It started the week at 113 and receded to 108 on Friday, closing at 108⅜.

The fluctuations during the week have been from 106⅞@113, the lowest Thursday and the highest Monday, closing to-day at 108¼ bid.

Cotton oil stock was raided, with the other Industrials, and sold down to 9⅛, with the last sale reported at 9¼. It appears that longs had pretty well unloaded, as the lower figures did not bring them out, nor were there many stop orders reached, except on Monday, when the first break below 10 startled the dealers. During the last two days there were no sellers, although the bids were raised.

The fluctuations during the week have been from 9¼@11½, the lowest Wednesday and the highest Friday, closing to-day at 10½ bid.

Lead stock was also one of the securities to which the attention of the raiders was directed, and although it received considerable support early in the week, receded to 21½, which was the last sale. The transactions were not large and a moderate buying movement later would probably have sustained prices.

The fluctuations during the week have been from 21½@23⅝, the lowest Friday and the highest Tuesday, closing to-day at 21⅛ bid.

Whisky stock was affected by various reports, and persistent endeavors were made to bolster it up, though it required determined work to prevent a slump. The securities of the reorganized concern have not appeared, and nothing more definite is known respecting them. The stock dropped to 13, and closed at 13¾.

The fluctuations during the week have been from 13@14⅛, the lowest Thursday and the highest Monday, closing to-day at 13⅝ bid.

Linseed Oil sold down to 18 on Monday, and since then there have been no transactions, though holders have shown more confidence, especially since the conference of the managers, which is thought will result in important benefit to the company.

Rubber stock is the only one of the industrials which has withstood the raid of the past week, due, undoubtedly, to determined efforts on the part of the insiders. The reports current certainly did not encourage an advance, which was in spite of these and the raid. The stock opened at 15¼, and closed on Friday at 16¾.

In the following table are given the closing quotations Friday night. The market review is complete to Saturday's close:

Name.	*Amount.*	*Bid*	*Asked*	*Last Sale.*
Am. Cotton Oil Co.	$20,237,100	10⅜	11⅜	
pref.	10,198,600	51	53	
bonds 8% g.	3 566,000	—	—	109 June 18, '96
American Grocery Co.	1,500,000	—	—	
pref.	1,500,000	—	40	
2d pref.				
Am. Soda Fountain Co.	1,250,000	—	90	
pref.	1,250,000	—	90	
2d pref.	1,250,000	—	90	
Am Spirits Mfg. Co.	28,000,000	—	—	
pref.	7,000,000			
bonds 6%	1,400,000	—	—	85 - Oct. 24,'95
Am. Straw Board Co.	6,000,000	35	38	
Am Sugar Refining Co.	36,773,000	108	108⅝	
pref.	36,773,000	100	101	
Am. Tobacco Co.	17,900,099	60¼	60¾	
pref.	11,935,000	93	100	
Celluloid Co.	5,000,000	—	62	65 —Mch. 31, '96
Con. Stock & Pet. Ex. Membership.		—	—	$150—June, '95
Diamond Match Co.	9,000,000	223⅜	—	
Distilling & Cattle Feeding Co.	35,000,000	13⅜	13⅞	
National Lead Co.	14,905,400	21¾	28	
pref.	14,904,000	85¼	86¾	
National Linseed Oil Co.	18,000,000	17¾	19	
6% gold deb.	1,400,000	—	—	93 —Oct. 19,'94
National Starch Co.	5,000,000	—	8	
1st pref.	3,000,000	45	55	
2d pref.	2,500,000	10	20	
1st mort. 6%	3,337,000	—	—	95— June 25,'96
National Wall Paper Co.	30,000,000	—	—	
bonds 8%	3,000,000	—	82	
P. Lorillard Co.	3,000,000	—	—	
pref.	2,000,000	102	—	
Proctor & Gamble Co.	1,250,000	—	—	
pref.	2,250,000	—	—	
1st mort. bonds		—	—	
Produce Exchange Membership.		—	—	$230— June 26,'96
Quicksilver Mining Co.	5,700,000	1¾	3	
pref.	4,300,000	13	18	
Southern Cotton Oil Co.	4,000,000	—	45	
Standard Oil Co.	97,000,000	256	258	268—May. 28, '96
United States Cordage Co.	206,000	4⅝	4⅝	
pref.	518,700	8¼	9	
6% guar.	6,000,000	17	17⅜	
1st mort.	6,076,000	—	—	25 —July 2, '96
U. S. Leather Co.	60,000,000	7¼	7⅜	
pref.	60,000,000	57½	58	
bonds 6%	6,000,000	—	—	110⅞—July 1, '96
U. S. Playing Card Co.	3 600,000		100	
U.S. Printing Co.	3,500,000		100	
U. S. Rubber Co.	20,166, 800	16	16¾	
pref	19,450,700	73	76	

(Continued from First Column)

St. John, N. B.			1,400
St Johns	51	51	
Stockholm			211,519
Sydney		2,.72	2,330
Talcahnano			2,000
Tampico—			30
Trinidad	330		350
Uddervalla			24,950
Valparaiso	1,300		1,295
Wellington			300
Total	325,481	2,293,408	2,464,305

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WITH A BINDER.

Price $1.00.

The Electrolysis of Chlorides.

BY E. ANDREOLI.

Much merriment would have been created in the scientific world ten years ago if any one had suggested the production of chlorine and soda by electrolysis on an industrial scale. At that time, "electric bleaching" was looked upon as a marvel, whereas it really was bleaching by means of hypochlorites produced by the old electrolytic process. Already in 1886 use was made of the stereotyped phrase "revolution in science and industry," and those who were ignorant of the fact that fifty years before a Frenchman had decomposed a solution of salt to produce hypochlorites welcomed with enthusiasm this great discovery, whereas others were positive that no one would succeed in competing with ordinary chloride of lime by having recourse to electro-chemically produced hypochlorites. Much progress has been made since 1886, and we now consider the electrolytic production of hypochlorites not only out of date, but also too expensive. This obsolete system has still some supporters, as always happens in the industrial world.

People would have hesitated very little ten years ago to turn their backs irreverently on any one who dared to suggest that the conversion of common salt into chlorine and caustic soda by means of the electric current was commercially possible. He would have been looked upon as a dreamer, an ignoramus or a lunatic, worthy of ending his days in a padded cell. It has, nevertheless, come to pass. What would in 1886 have been considered Utopian is a reality in 1896, and soda and chlorine are produced at the present time on a large scale by means of electrolysis.

It would be tedious to describe at full length all the attempts made, more or less successfully, within the last few years, to solve this great problem of the electro-chemical production of chlorine and the caustic alkalis. It would, nevertheless, be an interesting study, and, moreover, very suggestive, and would give an idea as to what steps should be followed or improved upon, and more particularly what is to be avoided, in order to insure success. Not without regret, those electricians only will be referred to who have successfully worked their processes on a commercial scale, and who have erected electro-chemical works capable of turning out daily one or two tons of soda and chlorine, or several tons of chloride of lime.

Every one acquainted with the subject knows that when anodes and cathodes are placed opposite each other in a solution of sodium chloride, but without being separated by a porous diaphragm, the electric current gives rise to the formation of hypochlorite of sodium. If you place porous diaphragms between the positive and the negative plates in such a way as to form water-tight compartments, chlorine will be generated in all the positive compartments and caustic soda in all the negative ones.

Chlorine is of a destroying and corrosive nature, while the oxygen liberated at the positive electrode has a powerful disintegrating action on ordinary carbons. For these reasons great difficulties arise in obtaining an insoluble anode, which is at the same time indestructible, or which is capable of resisting the action of these elements for a lengthy period. Ordinary retort carbon is the material which has given the most satisfaction for this purpose, and that which is to be obtained from gasworks is most suitable, after having been immersed in a bath of paraffin wax in order to fill up all its pores, and then heated to a high temperature.

The problem of obtaining a suitable diaphragm is more difficult. One might say, with a perfect right, that it cannot be solved, but the greater the difficulty in overcoming an obstacle the greater the merit. Porous diaphragms have been and will be discovered which fulfill all the conditions required for the decomposition of solutions of chlorides; that is, which are not attacked, corroded and destroyed by chlorine on one side and by the caustic soda on the other. What substance has not been tried in attempting to solve this problem? Each in its turn, porous partitions have been made of asbestos, with or without gelatine saturated with bichromate of potash, parchment (Lesueur), soap (Kellner), asbestos and sand, spun glass, blotting paper, porous membranes, of a special kind of cement, coagulated albumen, felt, asbestos porcelain, Kieselguhr, porous earth mixed with gelatinous substances, etc. Then it has been thought of putting a liquid between the two porous partitions of the positive and negative compartments. Even common salt has been tried, as also V-shaped pieces of glass, separated by pieces of asbestos felt. The combinations which have been tried have outnumbered those which were made in the attempts to construct a good primary battery. But for some reason or other, the diaphragms turned out were a source of disappointment and of cruel vexation. This diaphragm was too porous, that one offered too high a resistance to the passage of the current; some dissolved away slowly; some, at the end of a certain time, became perforated with a great number of very minute holes, whereas others became incrusted and did not allow the diffusion of the caustic soda to take place. More generally however, they did not stand the strain of continuous working, and had to be renewed. It can be said, without fear of contradiction, that the diaphragm able to last and to fulfill the conditions required for the formation of chlorine and caustic soda has been the stumbling block to all those who have worked at the electro-chemistry of chlorides. To these obstacles was to be added another, from a commercial point of view. It is not sufficient, in industrial electrolysis, to have a lasting anode, a faultless diaphragm, a very low E. M. F. and a very high conductivity. The object sought is the maximum output of chlorine and soda, and, finally, as a sine qua non, the pure caustic soda obtained in the negative compartments should be so concentrated as to necessitate as little further expense as possible for the production of the material. It is not all milk and honey for the manufacturer of electrolytic chlorine and soda, and those who imagine that it is only necessary to send a current of electricity through a solution of sea water or of sodium chloride know little or nothing at all of the matter.

The characteristic feature of the Richardson-Holland process, which is worked by the Electro-Chemical Company at Parr, near Widnes, in Lancashire, is that instead of porous partitions, use is made of one non-porous partition, which does not quite reach to the bottom of the tank so that the solutions in the two compartments are not separated from each other at the bottom of the electrolyzer. At first sight this appears to be quite original, but it is simply the reproduction of the electrolytical apparatus which Smith and Selnikoff adopted in 1886, and which, moreover, was copied from that used by Bunsen, Mathieson and others in the first attempts made in the electrolysis of fused salts during the first half of the century. The anodes are merely blocks of retort carbon, the tops of which have caps of lead. These are borrowed from Lesueur's patent, and have, moreover, nothing new about them.

In the chlorine and caustic soda tanks, just as in those where hypochlorites are formed, hydrogen is a source of much bother. This gas is a regular bugbear, whose speciality is polarization. With a view to remedy this evil, an electrician had made use of various peroxides, among others peroxides of manganese. Richardson and Holland adopted copper oxide, which they use in close proximity to the cathode.

It is useless to criticise this process. Nothing is perfect in this world. The Electro-Chemical Company should not be misled on this subject; but, even as it stands, its lot is enviable, and there are many electricians who would like to have, like Richardson and Col. Holland, a capital of £8,000 to back them up and a board of directors composed of persons holding important positions in the trade.

In the Richardson-Holland tanks, the solution of soda two or three years ago attained a maximum density of 14 per cent. It was not wholly free from contamination with chlorine, which means that there was a loss of chlorine and of soda due to the formation of hypochlorite. The E. M. F. was 6 volts. Hence there was nothing very wonderful about this process either from the point of view of novelty or from that of economical application. But Dr. John Hopkinson's report stated that for each horse power two tons of salt would be decomposed per annum, and that each ton would yield 1.2 tons of chlorine and an equivalent quantity of caustic soda. He affirmed that each horse power would only cost £8 per annum, and for this amount more than one ton of caustic soda and three and one-half tons of bleaching powder would be obtained. The managing director, Mr. Leith announced that a plant capable of turning out 6,400 tons of caustic soda (of 70 per cent. strength), and 13,320 tons of chloride of lime per annum, would cost £100,000, and that the annual profit would amount to $110,000. There was sufficient in this to attract the most obdurate people. It was given out that the future of this company would be as great and as remunerative as that of the firm of Brunner, Mond & Co., who out of the manufacture of chemical products had realized profits which had enabled them to declare dividends of 20 per cent. in 1882, 35 per cent. in 1883, 27½ per cent. in 1884, 35 per cent. in 1890, 50 per cent. in 1892 and 100 per cent. in 1893.

The success of the Electro-Chemical Company was enormous. It could have had a capital four times, even ten times, as great as it obtained. Since that time (1894) the erection of the company's works has gone on uninterruptedly, and also the fitting up of the plant, which has been ready for some time. All that is known of this company is that it possesses 200 electrolyzers, 7 m. square and 50 c. m. high, and that each tank requires 700 amperes and 5 volts. It is said that the production amounts to 60 tons of caustic soda (70 per cent.) and 33 tons of chlorine, equivalent to 100 tons of chloride of lime.

The Electro-Chemical Company is no friend of critics and only gives information to those who promise not to make any comments. That is, therefore, all that we know of this large installation. But these figures, which we have obtained from the Electrical Engineer, show a disparity as strange as it is considerable. Granted that the theoretical yield of chlorine is 1.34 g. per ampere per hour, and that of caustic soda is 1.49 g., and admitting that the Electro-Chemical Company obtains the theoretical maximum, how is it that as it produces 33 tons of chlorine it only turns out 60 tons of caustic soda? The proportions are not correct and there must be a mistake somewhere.

It is not intended to discuss here the merits of this or that method of producing electrically those two great industrial products, chlorine and caustic soda Criticism would be out of place here. Instead of seeking for defects, let us encourage the pioneers who were the first to succeed in erecting works where their process would be carried out and from which the products would be exported to all the European and American markets. Our duty is to cordially applaud the success achieved by those who stepped from the laboratory where their experiments were carried out, into the factory where the work of transformation of salt, which was formerly done by the Le Blanc and Solvay processes, took place under the action of the electric current without making use of the immense furnaces, retorts and other complicated apparatus which seemed to be the ne plus ultra of chemical science, and which, no one can deny it, will have to disappear because electro-chemistry succeeds better than chemistry, and under undeniably better conditions of salubrity. Is the health of the operatives in an industry not to be considered?

Many would be astonished were we to give a list of those who have from 1886 to 1896 (without going farther back) devoted their time to this arduous and nevertheless fascinating task, viz., the decomposition of chlorides. Some failed because they were on the wrong track; others because when passing from experiments on a small scale to those on a large scale they came across unforeseen difficulties which discouraged them. There have been some who could have carried the matter to a successful issue who have not succeeded in convincing the capitalists. The history of inventors is indeed a sad one.

It is not only the electrolysis of the solutions of chlorides which has benefited by the impulse given during the last few years to the research for chlorine and soda; all branches of electro-chemistry have profited thereby, and this science, this art, this world of magnificent experiments which grips the science of chemistry to place it at the disposal of electricity, has made slow but prodigious progress, which will, before the end of the century, make us witnesses of the prodigies which no one would, a few years back, have thought possible. Take up the books supposed, in 1886, to be up to date, take up the papers and electrical publications, read the special treatises in electrolysis. Was a word said about competing against chemistry by the decomposition of a saline solution by means of the electric current? That did not exist; the man who would have proposed it would have been taken for a dreamer, and yet such a thing exists to-day. It is a triumph of unceasing work which no discouragement can put a stop to. Not only have we to-day a factory where the Electro-Chemical Company has begun to place on the market chloride of lime and caustic soda, and has already sold in advance all the produce for 1896, i. e., thousands of tons, but there is another being built with the greatest possible speed, and where it appears better results are to be obtained.

The Castner-Kellner Alkali Company promises a yield of 88 to 90 per cent., a result which no one had previously attained. The proportion of salt decomposed is so great and the energy absorbed is so small that according to them it is impossible for any one to do better. The process adopted by them works almost automatically, requiring very little manual labor. The solutions of caustic soda formed in the cathode compartments have a density of 20 per cent., i. e., 6 per cent. more than those of the Electro-Chemical Company, and yielding on evaporation solid caustic soda of 78 per cent. strength (8 per cent. more than that produced by the Electro-Chemical Company, which is only of 70 per cent. strength), a product which has not up to the present been heard of in the alkali industry.

This installation is to be of 4,000 h. p. and is estimated to cost £50,000. It will be capable of turning out daily 18½ tons of pure caustic soda and 40 tons of chloride of lime, i. e., 6,300 tons of caustic soda and 13,600 tons of chloride of lime per year of 300 working days. Even reduced to 5,000 tons of soda and 12,500 tons of chloride of lime, this production would be enormous and wonderful. We wonder what those shining lights of the chemical industry would have thought of this, who, less than ten years ago, were so wittily sarcastic at the expense of the poor devils who sought to utilize electrolysis and to attain practical results susceptible of making it appear likely to compete with the chemical industry. They are no doubt convinced now; at any rate, they do not make themselves heard.

In England alone 160,000 tons of caustic soda and 150,000 tons of bleaching powder are the annual output. If the Electro-Chemical Company and the Castner-Kellner Alkali Company between them turn out 12,000 tons of caustic soda and 25,000 tons of chloride of lime, the start made by electrolysis in the chemical industry promises very well for the near future. The Castner-Kellner Company has sold its American patents to the big alkali firm of Messrs Mathieson. A company has been formed in Austria to develop this process near Salzburg, and finally the remaining European patents have been handed over to Messrs. Solvay. When one sees people like Solvay putting themselves at the had of the movement for substituting electro-chemistry for chemistry it must be admitted that they know what they are about, and that if they adopt the electrical method it is because there is some good in it, that it must replace the old system of working, and that they do not want to be forestalled by other industrial people, who would thus take up a position from which it would be impossible to dislodge them.

We have already seen that Messrs. Richardson & Holland's Electro-Chemical Company promised a large profit, and that, for example, everything being included, 1,000 tons of caustic soda of 70 per cent. strength and 3,330 tons of chloride of lime will cost £27,000; and, taking the selling price of caustic soda to be £9 per ton, and that of chloride of lime to be £8 per ton, this would give a total sum of £41,000, to be realized by the sale of the products, resulting in a net profit of £16,000. We do not in any way dispute the figures which have been given us; we simply cite them as being official and authentic statements, and what we have done for the Electro-Chemical Company we now do for the Castner-Kellner Alkali Company, who have stated that they are capable of turning out caustic soda at £4 5s. per ton, and chloride of lime at £3 per ton, which is equivalent to a profit of £1,000 weekly, or £52,000 per annum.

The Castner process differs totally from that of Messrs. Richardson and Holland, to which it is far superior in every respect. It is based on the use of mercury, not as a cathode, as too many electricians believe it to be, but as a diaphragm. This diaphragm consists simply of a layer of mercury which constantly oscillates in a compartment closed on each side by a non-porous partition, the lower end of which just reaches the layer of mercury. No resistance is offered by this diaphragm, which automatically leans first toward the cathode and then toward the anode, and which, in coming alternately in contact first with

one and then with the other, absorbs the sodium liberated and then at once gives it up to the water, which is over the mercury. Castner attributes the high yield to this, and lays great stress on the absence of hypochlorite, which is a characteristic of his electrolytical work, whereas, in the Richardson-Holland process the presence of hypochlorite is a serious drawback. Mr. Castner is very enthusiastic about his anodes, which withstand the corrosive action of the gases liberated at the positive pole much longer than the best retort carbon which can be found. But this process, which consists in submitting retort carbon to a very high temperature in contact with different substances, has nothing wonderful about it, and it would be as well not to have recourse to it. We can think it very good to have to require an E. M. F. of only four volts when the current used is 550 amperes. All the experiments on the strength of which the factory was built were carried out by Mr. Castner at the works of the Aluminum Company, of which he is a director. He had thirty tanks; twenty-eight only of these tanks were in use, each divided into two sections; the remaining two were kept in reserve in case of accident, or to be used whenever any of the others required cleaning out, which took place every three weeks. Each tank contained 198 pounds of mercury in the central compartment, where sixty-two pounds of salt were decomposed daily. The tanks together yielded 1,320 pounds of caustic soda per day of twenty-four hours, to which is to be added an equivalent quantity of chlorine, which was used for the production, not of chloride of lime, but of potassium chlorate.

The calculations made by Mr. Kellner show that 1,058 g. of sodium chloride produce 724 g. of caustic soda and 642 kg. of chlorine per hour, and that 28 kg. of salt yield 19 kg. of caustic soda and 17 kg. of chlorine.

1 ampere hour decomposes 1.94 g. of salt.
1 watt hour decomposes 0.48 g. of salt.
1 kilowatt hour decomposes 1.06 g. of salt.
1 H.P. hour decomposes 2.96 g. of salt.
1 H.P. hour is required to produce 200 g. of caustic soda and 183 g. of chlorine.
1 H.P. is sufficient to yield 6.5 kg. of caustic soda and nearly 5 kg. of chlorine per day.

We give these figures just as they have been furnished, for the study of those interested in this electro-chemical industry. They are splendid results, we freely admit, and Mr. Castner, without doubt, deserves to be congratulated by all electro-chmesits without exception, for it has been a great achievement to do better than the Electro-Chemical Company.

Without raising any questions of rivalry, without comparing the Richardson process with the Castner process, and admitting that the latter has not only succeeded and done better than the Electro-Chemical Company, we can well say that electrolysis has achieved two brilliant triumphs.

We have just described the Castner process; nearly everybody is acquainted with it. Why does the company bear the name of Kellner in conjunction with that of Castner? That is a mystery at which we can only conjecture. We can only suppose that among the numerous patents taken out there is probably one which Mr. Castner has unwittingly infringed upon, and which may have brought forth a protest or a claim of priority from Dr. Kellner, and finally some arrangement whereby the company would put his name by the side of that of Mr. Castner, who has the right of working the process in Austria.

Now that we have witnessed the industrial success of two electrolytic processes, so different, not only from each other, but from anything which has up to the present been attempted either with or without the use of mercury, we will turn our attention to a third process, still more original than either Castner's or Richardson's, the latter of which is characterized by the use of non-porous partitions which do not reach the bottom of the tanks. This third electrolytic method, due to Mr. James Hargreaves, has for its distinguishing feature the use of porous partitions on each side of the positive compartment and of two dry negative compartments. According to tradition, the electrolysis of chloride solutions of uniform strength, which takes place in the positive and negative compartments, leads to the formation of caustic soda at the positive pole and alkali at the negative pole.

We have, or, rather, Mr. James Hargreaves has, changed all that. That he does not favor the use of mercury we shall see presently, but he is of opinion that if a good diaphragm has not up to the present been used, it is because people have not set to work in the right way, and if any difficulties have arisen while the diaphragms were being made use of it is because too little attention has been paid to "osmosis"—and it has been neglected too much.

Mr. Hargreaves and his colleague, Mr. T. Bird—who died last year—succeeded in making a diaphragm which enables them to obtain a yield of 92 per cent., which only leaves 3 parts of salt undecomposed in 10,000 parts of alkali. The important point is to have a diaphragm which is not porous in the strict sense of the word. It is a mistake to think that a diaphragm should be as porous as a slab used for filtering purposes; on the contrary, the liquid should not pass through the septum, but when the electric current begins to act the caustic soda goes through and yields itself at the cathode. Mr. Hargreaves has succeeded in constructing diaphragms more than five feet square, capable of withstanding a current density of 20 amperes per square foot and which require an E. M. F. of from 3 to 3½ volts only.

The beauty of Mr. Hargreaves' paper is that everything in it is thought out, discussed and explained at length. It is not, as in so many other cases which could be mentioned, a paean of glory sounded in admiration of his work, which, no doubt, he loves, but which he does not place in front of everything that has been done before him. His contribution is practically a treatise on electrolysis. Everything in it is as original as Mr. Hargreaves' process itself, and its essential object is to state for what reason one thing was done and not another.

His diaphragm is immersed in the electrolyte only on the side nearest the porous compartment; the other side as well as the cathode is merely left exposed to the air, and would very soon be covered with a layer of caustic soda if a current of steam were not made to sweep away the caustic soda which percolates through the porous partition.

Let it not be said any longer, when referring to this electrolytic tank, that chlorine is evolved in the positive compartment and that caustic soda is formed in the negative compartment. There is nothing in Hargreaves' negative compartment except a cathode, which is close up to the diaphragm through which ooze small drops of caustic soda, which is formed in the positive compartment simultaneously with the chlorine evolved.

Mr. Cross seized the opportunity to speak of the famous theory of the migration of ions, which has been the subject of more dry discussion than the doctrines of the theologians of the Middle Ages. You might as well devise a theory as to the causes of the migration of herring shoals or about swallows and of their means of knowing their way, which helps them to return periodically to the same place. The true migration of the ions in a negative compartment containing no liquid is quite clear, just as in a compartment containing mercury. The mercury has nothing to do but act as a receiver or collector of the alkali metal which comes to it from the positive compartment, and which, being absorbed by the mercury, gives rise to the formation of an amalgam. Mr. Cross did not spare his eulogies of Mr. Hargreaves, and stated that whereas the yield in his tanks was from 82 per cent. to 95 per cent., the composition of the sodium carbonate varied between 54.6 per cent. and 57.6 per cent. of Na_2CO_3.

The curious point is that the chemist, in speaking of the electrolytic processes which have come to be worked on a commercial scale, stated that there were only three, viz., those of Castner, Hargreaves and Le Sueur. What can Messrs. Richardson and Holland and the directors of the Electro-Chemical Company have thought of this? He stated at Rumford Falls in America that Le Sueur's process works "satisfactorily." But the elasticity of this satisfying expression is such that one would prefer to see figures quoted.

Messrs. Cross and Bevan published two or three years ago a paper on the experiments they carried out for producing caustic soda and chlorine by means of the Le Sueur process. It does not appear that their results will bear comparison with those obtained by Castner, Hargreaves and Richardson. Dr. Hurter, chemist to the United Alkali Company, and a firm believer in the theory of the migration of the ions, started by his countrymen, Kohlrausch and Hittorff, has explained that this theory applied to imaginary receptacles, filled with certain solutions separated from each other by imaginary diaphragms, and that the essence of this theory, which serves to show what takes place in practice, is that if an electric current is made to pass through a tank containing one electrolyte only, the composition of which remains unchanged, the yield will always be 100 per cent.; for instance, a solution of sulphate of copper electrolyzed with two copper electrodes. But if you have a solution of sodium chloride you come in contact with sodium hydrate, hypochlorites, chlorate, etc. All of these are so many electrolytes. One may then inquire as to how the current will distribute itself among them. Will it pass through the chloride of sodium alone, or will it divide itself between that and the caustic soda and the other salts? Do not all these electrolytes share the current just as two copper wires of different sections would, which share in different proportions the current passing through them. Caustic soda has a high conductivity; hence it should absorb more current than the chloride of sodium, and it is clear that the current is split up between the electrolytes in proportion to their respective conductivities.

This is quite opposed to the idea of Mr. Hargreaves, who, contrary to Dr. Hurter, as a result of the experiments he has carried out, has come to the following conclusions: 1. The migration of the ions is unilateral and not bilateral. 2. That the anion is only the residual product, left by the cathion after it has parted with the anode. 3. The cathode is only the target at which the last cathion of the molecular chain is aimed, and it has no active property by which it can send anything to the anion. 4. It is not necessary that the electrolytic chain should retain the cathoion in combination with a corresponding anion all along the chain, and the decomposition of a chloride solution takes place just as well when part of this chain consists of an oxide and not of a chloride, so long as there is only some of the chloride on the surface of the anode. "All this," he wittily adds, "is hardly orthodox, and I can only suggest these opinions as being plausible explanations of certain results which the orthodox theoretical hypothesis has not been able to indicate beforehand."

As a matter of fact, what are the fundamental laws of electrolysis which can be considered as being fixed and immovable? One of them is that referring to the relation and the direct equivalence between the current used and the compounds which are electrolyzed. The other is that of the relation and of the equivalence between the heat of formation and the E. M. F. required for the decomposition of the compounds. There is still Ohm's law, but it applies more to electric conductivity than to electrolysis. In the absence of any certainties, what can be more legitimate than to assume temporary hypotheses or to make certain scientific suppositions, in order to make oneself clear? The point is not to take hypotheses for established facts, and to carry out researches with equity; that is to say, with the determination to interpret the results obtained from the experiments carried out as they should be, and to draw deductions from them legitimately and impartially, without troubling whether they confirm or differ from any opinion which one may have previously had. People start with certain ideas gathered from text books and are quite astonished to find that the phenomena witnessed during the experiments altogether upset these ideas, and then the whole thing has to be gone over again; you have to retrace your steps and start on a fresh track, which, if you have time and courage at your disposal, will lead you to the goal.

At the outset one may ask whether the copper gauze which presses against the diaphragm does not constitute a conductor or a semi-conductor. But there is nothing in it. The very low E. M. F. required to carry out the process is the best proof of this. Here is the result of the working of fifteen tanks during fifty-nine days of twenty-four hours each:

Average current used per sq. ft..	18.7 amperes
E. M. F. required for each tank..	3.4 volts.
Effective yield	80.3 per cent
Proportion of NaCl obtained from 100 parts of Na, as Na_2CO_3.....	7.7

These figures show a certain superiority over the Leblanc process. The chlorine showed a yield of 97.5 per cent. and the strength of the chloride of lime produced varied from 37.5 to 39 per cent. If we go by what Mr. Hargreaves says, a thing which we can do with perfect security, as he is quite competent in the matter, there is more advantage to be derived, from a commercial point of view, in making electrolytical carbonate of soda than caustic soda. The carbonate of soda as it comes from the cathode compartments only needs to be boiled and evaporated. It is then in a state of purity, which the crystals obtained by the Leblanc process do not possess.

The experiments which have been carried out at the works of the parent General Electrolytic Company, at Farnworth, near Widnes, in Lancashire, have secured as a basis for the following estimate for a plant of 2,000 electrical horse power.

This power of 2,000 H. P. will enable the decomposition of 5,830 pounds of sodium chloride to take place daily. The products of electrolysis obtained will be 26¼ tons of chloride of lime and 15 tons of sodium carbonate. The cost of production, everything being included (viz., cost of maintenance, packing, rents, rates and taxes, labor and depreciation), comes out at £2 12s. 6d. per ton.

To realize the extraordinary cheapness of the caustic soda and chlorine that Mr. Hargreaves announces with such boldness, it is necessary to assume as a basis from which a manufacturer on a large scale is to start that 1 H. P. per hour will require the consumption of only 0.77 pound of coal. We listen attentively to Mr. Hargreaves when he tells us that he has devoted himself to electrolysis since 1875, and that he had subsequently thought of a motor which would enable him to produce 1 H. P. per hour with only 0.75 pound of coal, which amounts to practically nothing, as coal does not cost, 8s. a ton at Widnes.

Mr. Hargreaves' motto, borrowed from Leonardo da Vinci, who himself was a great mechanical engineer and a savant beyond the ordinary, which did not prevent his being immortalized as a great painter: "La sperenzia non falla mai, ma sol falloro i vostri giudizii," which being translated means that "experiments never lead you astray, but it is your theories which do."

Has not Mr. Hargreaves made a mistake in reviewing, as he has the Castner process and condemning it, in the cause of philanthropy, because according to him mercurial vapors are given off from the central compartment in the Castner tanks? It is only necessary to refer to the description of the Castner system to see that the mercury alone is quite inoffensive and that it is quite impossible in any way for the workmen to feel any bad effects from the working of this liquid metal, which does not act as a cathode, but simply as a moving diaphragm. Sir Henry Roscoe, Dr. Hurter and several chemists or electro-chemists have severely criticised this unjust condemnation of the use of mercury, and they are quite right. They also made a small panegyric about electrolysis, and have foreseen that it would achieve great things. There is no one like a new convert to firmly believe in the faith he has embraced. One of these chemists has probably forgotten that he considerably amused his learned audience when he announced that there were some Frenchmen who pretended to be able to produce chlorate of potash electrolytically and to compete with that which is produced by chemical means. Many of the old opponents of electrolysis have gone back to their old opinions, and to-day there are no electrochemists who are more enthusiastic and more passionately fond of this new branch of science than themselves.

It is worth noticing that the three systems for producing caustic soda and chlorine by electrolysis which hold the field up to the present are absolutely different from each other. Each of the three has solved the problem of commercial production; that is to-day an accomplished fact which it would be puerile to doubt. Electrolysis can compete with chemical industry as far as the purity and the cheapness of the products are concerned, besides, it is far superior as regards the simplicity of the installation and from being more sanitary.

These three systems are carried out under pretty nearly the same conditions of cheapness, but as we have already seen, it is the Hargreaves process which promises to turn out caustic soda and chloride at the lowest price.

Richardson and Holland have a porous partition in their tanks which does not reach the bottom; that is exactly the arrangement which had been adopted long before them by Serikoff and Smith.

Castner appears to have copied Kellner in using mercury for collecting the sodium in the positive and negative compartments and to give it up in the form of caustic soda in a central compartment, where it acts as a central liquid diaphragm.

Hargreaves has two porous partitions between a positive compartment

J. S. C. I. 14, 1011 (1895)

filled with a concentrated solution and two empty negative compartments. Either by exudation or by osmosis the soda passes through the diaphragms. That is no doubt a marked progress, and is undoubtedly an original idea. This innovation of Hargreaves must be considered to be an immense advance, in spite of what the believers in the bilateral migration of the ion may say. The admirers of Kohlrausch and other German theorists must take the most of it and say good-bye to their hypotheses. Hargreaves' idea, which is prolific in results, has made short work of them. The drawback is that Hargreaves' diaphragms do not last long. They are well made and cost very little; they can be easily made and of any size. But they are not lasting enough. They must be replaced after a few weeks' use, and that is a great disadvantage. These porous partitions are in the form of extremely thin plates made of a composition of asbestos compressed very hard, and which it is difficult to break with the hands. It would not be discreet to divulge the nature of this composition and of its mode of manufacture. All that we wish to say is that we are quite persuaded that Mr. Hargreaves, who has already so perfected the making of his porous asbestos paste diaphragms, will succeed in ensuring them the necessary durability which they at present lack, although they are far superior to any which have up to the present been employed. We are certainly far from hearing the least of the improvements which we have a right to expect, because for a beginning in the production on a large scale of soda and chlorine, electrolysis has a good cause to be proud of the results which it has helped to obtain. It is a good thing for all electro-chemists and electro-metallurgists, without exception, that these audacious attempts should have been crowned with success, for it is a great encouragement to those who, now that the first step has been taken in England, may expect to get, in those countries where capital is more timid, the support which is usually missing. Ricquet's motto is just as true as when he conceived the idea of making the "Canal du Midi" in France, "Monnoye fait tout." France is no poorer in talented electro-chemists than England and America.—Engineering and Mining Journal.

(Special Correspondence to the Reporter.)

Mineral Production in 1895.

Washington, July 2, 1896.

The United States Geological Survey has completed an interesting summary of the mineral products of the United States for 1895, and the Oil, Paint and Drug Reporter, through the courtesy of Dr. David T. Day, is enabled to present its leading features in advance of publication.

"The total value of the mineral products of the United States for the year 1895 increased over $80,000,000 beyond the value for 1894, or from $527,368,594 to $611,795,290. This increase is a long step toward recovery from the depression to which the mineral industry, like all others, has been subjected. The total value is slightly less than the greatest we have ever known, which was over $648,000,000 in 1892. In term of quantities produced, instead of value received, 1895 is greatest. In other words, prices are lower.

"If we consider for a moment the record of the total values recorded in these reports since 1880, the increase from $350,319,000 to $611,795,290 is significant, and while it is impossible to select any year as a normal one from which to note increases and decreases and to record the permanent increase in the mining industry, still the average for these sixteen years gives a fair approximation to what our normal mineral product should have been halfway between these dates, or in 1888. Comparing this coputed normal product with the actual products, we see that the average yearly gain due to the general growth of the industry should be about $25,000,000, or the product of 1895 should have been $670,000,000. The great products of 1892 and 1895 show the ease with which the mines can respond to any unusual demand. It shows that the capacity is significantly greater than the ability to market the product. In fact, it is difficult to confine the large capacity to actual requirements. With very slight encouragement the product takes a phenomenal stride. In 1892 and 1895 the product most difficult to hold in check has been iron. This product easily controls the variations in the total value, either by the quantity produced or by the changes in prices.

"The gain in the quantity of petroleum, but especially the phenomenal increase in its price, was one of the great features of the year.

"Petroleum.—The most notable features in connection with the production of crude petroleum in 1895 are: (1) The notable increase in production, especially in Ohio, Indiana and California; (2) the decrease in stocks; (3) the rise in prices, and (4) the extension southward of the profitable producing districts in the Appalachian range.

"Briefly summarized, the facts regarding these four features of 1895 are as follows:

"1. The production of petroleum in the United States increased from 49,344,516 barrels in 1894 to 52,983,526 barrels in 1895, most of the important producing districts sharing in this increase. The production of Pennsylvania increased from 18,077,559 barrels in 1894 to 18,231,442 barrels in 1895, an increase of 153,883 barrels, or .85 of 1 per cent.; of Ohio from 16,792,154 barrels in 1894 to 19,545,233 barrels in 1895, an increase of 2,753,079 barrels, or 16.4 per cent. This increase in Ohio was fairly distributed throughout the two important Ohio producing districts. The production of Indiana increased from 3,688,666 barrels in 1894 to 4,386,132 barrels in 1895, an increase of 697,466 barrels, or nearly 19 per cent., while the production of California, owing to the new discoveries at Los Angeles, increased from 705,969 barrels in 1894 to 1,208,482 barrels in 1895, an increase of 71 per cent., the largest percentage increase of any of the States.

"2. The stocks of crude petroleum in the Appalachian oil field at the close of 1895 were 5,344,784 barrels, as compared with 6,499,880 barrels at the close of 1894. The largest stocks at the close of any one month in 1895 were 5,859,348 barrels in January, as compared with 11,755,219 barrels, the largest stocks in 1894 which were also at the close of January. The smallest stocks at the close of any one month in 1895 were those of June, the stocks being 4,275,506 barrels, while the smallest stocks at the close of any one month in 1894 were those of December, as noted above. The average stocks at the close of each month in 1895 were 4,879,770 barrels.

"3. The average value of certificate oil in the Pennsylvania field in 1895 was $1.35⅝, as compared with 83⅞ cents in 1894. This is the highest average price since 1877. The highest average price during any one month in 1895 was $1.79 in April; the lowest 99 cents in January. In the Lima field the average price advanced from 48 cents a barrel in 1894 to 71¾ cents in 1895. The total value of the 49,344,516 barrels produced in the United States in 1894 was $35,522,095, or nearly 72 cents a barrel, while the total value of the 52,983,526 barrels produced in 1895 was $57,691,279, or about $1.09.

"Phosphate Rock.—For the first time the product reached a million long tons, i. e., 1,077,773, worth $3,497,918. The chief feature of interest is the fierce competition of the river pebble deposits on Peace River in Florida. It is probable that the present low prices will gradually rise in this year. Phosphate rock from western Tennessee has become a permanent factor in the Western trade.

"Gypsum.—This product increased from 239,312 short tons to 260,345 tons with about constant price.

"Salt.—The principal feature of interest was the discovery of a very thick deposit of rock salt on Orange Island, Louisiana, near the old mines of Avery's Island. The total product of salt in the United States increased from 12,967,417 to 13,669,649 barrels, but the total value decreased from $4,739,285 to $4,423,886.

"Bromine.—The industry shows an increase. Including the bromine in bromide of sodium, made directly, the total product was 517,421 pounds worth $134,343. In 1894 379,444 pounds were made, with a proportionate value.

"Sulphur.—The point of principal interest is Sulphur Station, Louisiana, where the efficiency of the Frasch process has been increased by an air-lift pump, by which two or three thousand tons were brought to the surface, partly in 1896, but not yet sold. In addition the Utah deposits sold about 1,000 tons.

"Pyrite.—This industry shows a decline from 105,940 long tons in 1894 to 99,549 tons in 1895.

"Borax.—The product declined from 14,680,130 pounds in 1894 to 11,918,000 in 1895, with a similar decline in value.

"Fluorspar.—The product decreased in two years from 12,400 short tons to 4,000 tons in 1895.

"Metallic Paint.—The product shows a substantial increase both in amount and value over 1894. The product in 1895 was 29,859 short tons, valued at $319,142, against 25,375 short tons, valued at $284,883 in 1894, a gain of 4,484 short tons, or about 18 per cent. in amount, and of $34,259, or something over 12 per cent. in value.

"Ocher, Umber, etc.—The product of ocher increased in nearly the same proportion as that of metallic paint, from 9,768 short tons in 1894, valued at $96,935, to 11,995 tons, valued at $139,328, in 1895, a gain of 2,227 short tons, or about 23 per cent. in amount, but having the advantage of a greater increase in value, proportionately—$42,393, more than 43 per cent. The production of umber increased from 265 short tons, valued at $3,830, to 320 short tons, valued at $4,350. The sienna output increased from 160 tons to 275 tons, with a value more than doubled, from $3,250 to $6,950. The amount of soapstone ground for pigment incdeased to 270 short tons, valued at $3,200, from 75 tons, worth $525, in 1894. Pigment from slate increased from 2,650 tons to 4,331 tons.

"Venetian Reds.—A product of 4,595 short tons, worth $102,900, is reported for 1895, against 2,983 short tons, worth $73,300, in 1894. With the exception of 1892 this was the largest product ever reported.

"Barytes.—The product declined again to 21,529 long tons, worth $68,321, from 23,335 long tons, worth $86,983, in 1894.

"Cobalt Oxide.—The product is limited to amount extracted from the speiss obtained in lead smelting. It amounted to 14,458 pounds, worth $20,675.

"Zinc White.—The production rallied from 21,443 short tons, worth $1,500,975, to 25,000, worth $2,000,000.

"Lead.—The production of lead increased from 159,331 short tons in 1894 to 161,440 in 1895. The value in 1894 was $9,942,254 and $10,655,040 in 1895.

"Zinc.—The rapidly increasing product of this metal, which was checked in 1893 and 1894, was resumed in 1895, when 89,686 short tons were produced, worth $6,278,020, as compared with 75,328 short tons in 1895, worth $5,288,026.

"Quicksilver.—The increase in production noted in 1894 was continued in 1895, the figures being 36,104 flasks in 1895, as compared with 30,416 flasks in 1894. The value of this product increased from $934,000 in 1894 to $1,337,131 in 1895.

"Asphaltum.—The value of the product was about the same as in 1894, being $248,281, against $353,400. This, taken in connection with an increase in output from 60,570 short tons to 68,163 short tons, indicates a sympathy with the general depression in values. The product was from California, Kentucky, Texas and Utah."

British Chemical Industries.

The thirty-second annual report of Chief Inspector Carpenter of the British chemical industries has lately been issued, and is the subject of extended review in the columns of our London contemporary, the Chemist and Druggist. The "Alkali Act" is credited with not only having had a beneficent effect upon the British public health, but by the same means having tended to the development of new processes and the improvement of the industry as a whole. The figures given in the report show that the alkali industry has undergone a very marked change during the past twenty years, as is indicated by the inspector's table, showing the salt decomposed in the United Kingdom for alkali making during the past three years. It is as follows:

	1895. Tons.	1894. Tons.	1893. Tons.
Leblanc process	408,173	434,298	467,562
Ammonia-soda process.	428,614	361,603	349,609
Total	836,787	795,901	817,171

"It was in 1875 that Messrs. Brunner, Mond & Co. introduced the Solvay process into this country," says our contemporary. "That year they decomposed about 3,000 tons of salt, which figure has now risen to 428,614 tons! As frequently happens with the cheapening of production, the consumption of the material has very largely increased. Thus in 1885 the total salt decomposed was 713,128 tons (598,096 by Leblanc makers, and 115,032 by ammonia-soda makers). So that while visions of dismantled works and idle men may be conjured up for us, the fact remains that increased production means employment for more men, and that the fittest works have survived. There is no indication in the inspector's report of any appreciable change in the near future of the character of the output through the adoption of the electrolytic method. He mentions that the Electro-Chemical Company's works at St. Helens for working Holland and Richardson's patents 'were hardly in complete operation at the close of the year,' or, as the local inspector puts it, 'Owing to an unfortunate series of accidents to the machinery for driving the dynamos, regular work has been much interfered with, consequently any items of interest which the proprietors may see fit to supply for publication must be deferred'—which does not forebode a bright future. The Castner-Kellner Alkali Company has acquired land at Weston Point, near Runcorn, and will be engaged in the erection of a large plant to work the Castner-Kellner patents, which have 'been proved on the manufacturing scale by the experimental plant erected at Oldbury, and worked for a considerable period.' Reference is also made to the Hargreaves and Bird process, and this is the extent to which, so far, electricity has carried us in the practical production of alkali. Until the chief inspector is able to add an electrolytic line to the table quoted above, we cannot reckon upon the process as commercially important, interesting though it may be from the technical point of view. The references in the report to the Leblanc process are chiefly a tale of intermittent work in all but a few factories, and a struggle to get the most out of the hydrochloric acid in the shape of bleaching powder. It is a mere platitude to say nowadays that the United Alkali Company makes alkali because the loss in treating salt cake as waste would be greater than the loss on it as alkali. So they have started the plan of working most of their factories intermittently—a policy so disastrous to labor, as well as capital, that a few years will see the end of it, for the older and worn-out factories must join the ranks of the dismantled, and the work be carried on continuously in the best of the factories which remain.

"The report contains many points of technical interest, which cannot be adequately treated in this place, but we may mention briefly Kessler's process for continuous concentration of vitriol, which is at work in Scotland; the improved method of dealing with sulphuric vapors in use at Venetian-red works, this consisting in passing the gases through a tower packed with scrap wrought iron, down which water trickles, so that iron sulphate is regenerated; two or more methods for removing ammonium sulphate in an economical and clean way from the saturating tanks, and the troubles which are arising from 'devil gas' in ammonia works, that gas containing evil-smelling pyridine, which almost defies removal. These matters are of special interest to the technical chemist, and are fully dealt with in the report. We may also mention the troubles arising from tank-waste, and the methods of treating it, about which Mr. Carpenter and his assistants report many interesting observations.

"The principal matter of economic interest in the report is the wonderful progress in the use of chemical manures. Mr. Alexander Cross, M. P., chairman of the Chemical Manure Manufacturers' Association, states that this country now produces nearly 1,000,000 tons of superphosphates annually; Germany, 800,000; France, 750,000; Belgium, 300,000; Denmark and Holland, 200,000; Italy, 50,000, and the United States, 1,000,000 tons; altogether, 4,000,000 tons, of the value of £10,000,000 sterling. In addition to that, nitrates are used to the value of £8,000,000, ammonia to the value of £2,500,000, and other chemical fertilizers bring up the total expenditure annually in chemical products for restoring the land to between £22,000,000 and £23,000,000 sterling.

"The recovery of ammonia goes on steadily in this country. Last year 179,651 tons of sulphate, valued at £1,500,000, were produced, this being an increase of almost 20,000 tons over the year preceding. Gasworks produce about two-thirds of the amount, and, in spite of low prices, it is anticipated they will continue to increase their production. Iron, shale and coke works produce the rest, and increasing attention is paid to the subject by them. Here is a significant reference to the matter by the chief inspector:

"'In one works I visited I found the furnace gases, after extraction of the ammonia and tar, supplied all the heat necessary in the ironworks for heating the blast and for steam raising, for the distillation and working up of the tar and ammonia produced, and a surplus was left for use in a large adjoining steel department. Formerly that portion of the gases unutilized for the operation in the ironworks left the mouths of the blast furnaces in huge sheets of flame.'

"These are the 'blazes' which many patriotic Britons have regarded as a sign of their country's greatness, and which ere long will be a thing of the past; in fact, the lurid gold of the horizon is rapidly being converted into more solid gold. Benzol is the last thing to be extracted from these flames. Belgium and Germany get 1,000,000 gallons of benzol every year from their iron-works, and our iron founders are beginning to see money in it. In view of prevailing low prices, it looks senseless to push the recovery of ammonium sulphate too far, but Mr. Carpenter points out directions in which it may be utilized. The first is in the cultivation of beet. In respect to that, we have to destroy the farmers' bogey, 'exhaustion of the soil.' Beet is a soil-exhausting thing, and the farmer has not yet learned the trick of supplying the soil with exactly those things that he has taken out of it, or, in other words, sowing shillings and reaping sovereigns. Chemical manures will do this for him. Attention is also called in the report to the manufacture of glucose from starch, derived in its turn from potatoes. We imported £500,000 worth of glucose in 1894. While on every 100 acres of cultivated land in Great Britain only 1½ acres are devoted to potato cultivation, 11½ are similarly devoted in Germany, and much of that is used in making starch and potato spirit. 'Great expectations,' says Mr. Carpenter, 'may reasonably be entertained of the success of this industry if established here, as the yield per acre of potatoes is much greater in Great Britain than in any Continental country. A factory is about to be erected in Fifeshire for the manufacture of potato starch.'

"We like that last sentence about the Fifeshire factory, for it is an indication that what with us is a moribund industry is beginning to improve. Mr. Carpenter appears to be unaware that this country at one time was ahead of all others in the manufacture of potato starch, but several potato famines and much speculation in the homely tuber have helped to ruin it. There are still a sufficient number of factories in the country to produce the half-million pounds' worth of glucose referred to, and plenty of laborers in country districts ready and willing to begin their old work at moderate wages. The only thing needed is potatoes."

Cork Grown in Louisiana.

The Picayune received yesterday a fine sample of cork of home product and manufacture. It might not be known, but it is a fact that on the farm attached to the agricultural school of the Southern University, four miles above Carrollton, there is a splendid specimen of the quercus suber, an evergreen species of oak, whose outer layer, stripped and properly manipulated, furnishes the material from which the ubiquitous cork is derived. This tree is thirty years old, and was planted by the late William Mitthoff, who was foreman of the late John Slidell, at the time that distinguished gentleman tried to establish the village of Germantown, in Jefferson parish. Mr. Mitthoff obtained the seed from the Department of Agriculture at Washington. It is believed that this is the only one of its kind in Louisiana.

The cork tree grows to the height of about thirty feet, and is found in the south of Europe and on the North African coast generally, but it is practically cultivated in Spain and Portugal. The outer layer of bark, in the cork oak, by annual additions, from within gradually becomes a thick, soft homogeneous mass, possessing those compressible and elastic properties upon which the economic value of the material chiefly depends. The first stripping of cork from young trees takes place when they are from fifteen to twenty years of age. The tree in question was relieved of its first yield ten years ago, and the second trimming was performed yesterday, and the layer thus obtained was one and a half inches thick. The first yield was rough, unequal and woody in texture. This is called the virgin cork, and is useful only as tanning substances or for forming rustic work in conservatories, etc. The second stripping yesterday was an improvement in quality, but was not exactly fitted for the finer commercial uses.

In the country, where the cork industry is extensive, the operation of stripping takes place during the months of July and August. Two cuts are made around the stem, one a little above the ground and the other immediately under the spring of the main branches. Between these three or four longitudinal incisions are made, and the utmost care is taken not to injure the inner bark. The cork is thereafter removed in sections, into which it has been cut, by inserting under it the wedge-shaped handle of the implement used in making the incisions. After the outer surface has been scraped and cleaned the pieces are flattened by heating them over the fire and submitting them to pressure on the flat surface. In the heating operation the surface is charred, and thereby the pores are closed up, and what is termed "nerve" is given to the material. In this shape the cork is ready for manufacture or exportation.

Prof. Hugh Jamison, superintendent of the agricultural school, sent the samples of the cork cut from the bark of the oak on his farm, and this seemed to be of a very fair quality. He stated that this second yield would furnish from 15,000 to 20,000 corks, and, in his opinion, it would be a paying venture to try to introduce the cork industry in Louisiana, as the tree is very hardy, will grow in any damp soil, needs very little, if any, care, and, although fifteen to twenty years must elapse before it can be made practically to pay, the revenue derived from an extensive farm would amount to a considerable sum. The older the tree the more valuable it will become, for it continues to live and thrive under successive stripping processes for 150 years.—New Orleans Picayune.

Evaporation Test for Mineral Lubricating Oil.

BY. L. ARCHBUTT, F.I.C.

The usual method of determining the volatility of mineral lubricating oil is to place a weighed quantity of the sample of oil in a shallow dish or watch glass and expose it in a water or air oven for a certain number of hours, noting the loss of weight. But as the result of such a test must vary according to the number of times the air of the oven is changed during the test, a better plan is to place the receptacle containing the oil in a tube and pass a definite current of air or steam through the tube.

The apparatus which I use consists of a straight copper tube, 7-8 inch internal diameter and 2 feet long, having a branch tube, 3-8 inch diameter and about 10 feet long, entering it near one end, coiled around the straight tube. This tube and coil are fixed in a rectangular air oven of tinned sheet iron, lagged with asbestos millboard to reduce radiation, and heated by a row of small gas jets. A thermometer is fixed in the oven. The ends of the wide tube which project beyond the oven are closed by brass screwed caps, one of which, at the opposite end to the branch tube, is perforated, and carries a narrow tube in the center. Air or steam admitted to the coiled tube, after becoming heated in the coil to the temperature of the oven, passes over the oil in the wide tube and out through the short tube in the cap. The oil is contained in a platinum tray, 3 inches long by 1-2 inch wide by 1-4 inch deep, which, for convenience of manipulation, is placed in a glass tube which just slides within the copper tube and serves as a carrier.

The quantity of oil used for a test is 0.5 grm., which forms a thin layer at the bottom of the platinum tray. The temperature of the oven is varied to suit the requirements of the test; for cylinders working to 160 pounds pressure, the oil should be tested at 370 degrees F. The gas passed through the tube may be either air or steam, and of course the speed and volume of the current must be approximately the same in all cases to give comparative results. In my own case, having a supply of compressed air, I reduce it to a constant current of 2 liters per minute by means of a simple regulator, and I expose the ½ grm. of oil to this current for exactly one hour. The compressed air enters the regulator, and a slight excess is kept continually escaping at the lower end of the wide tube, which is immersed to a depth of 3 inches in water. The supply is taken from the branch, the orifice of which is reduced until just large enough to pass 2 liters per minute against atmospheric pressure under the 3-inch head of water.

If steam be used instead of air, the inlet is connected to a flask or boiler, and the exit to a Liebig's condenser. The gas under the boiler is regulated so as to distill a definite volume of water in the hour, 100 c. c. being a convenient quantity, though 92 c.c. is the volume required to give a current of steam nearly equal to the above-mentioned air current. The boiler is then detached, all the steam is blown out of the apparatus, and the platinum tray containing the oil is inserted. After allowing a few minutes for the tray of oil to become heated up, the steam current is turned on. If the tray be inserted without first blowing out the steam, water condenses on the platinum tray, the oil creeps over the edge of the tray and the test is spoiled.

The figures given in the table show, with five different samples of pure hydrocarbon oil, the kind of results obtained by this test. Bearing in mind the fact that the volume of steam passed over the oil in these experiments was about 8 per cent. in excess of the volume of air, the average loss of weight is very nearly the same in both gases, thus:

Average Loss per Cent.	B.	D.	Russian Oil.
1. In air current	0.55	16.55	14.50
2. In steam current of same volume (calculated)	0.57	16.32	15.04

The relative volatility of the first four samples of oil, all of American origin, is in the same order as their flashing points; but there is no definite relation between the two. The oil D, which has a flashing point only 22 degrees F. below that of the cylinder oil C, loses by evaporation a very much larger proportion; but the Russian oil, with a still lower flashing point, and of course containing a different series of hydrocarbons, does not lose so much as D. A large experience has shown that there is no difficulty in obtaining locomotive cylinder oil which loses less than 0.5 per cent. in one hour at 370 degrees F. under the conditions described, and what the flashing point of such oil may be is of no importance. In the case of machinery and spindle oils, the flashing point test cannot be dispensed with; but in many cases useful additional information may be gained by making the evaporation test at a suitable temperature. In testing such oil at temperatures below 100 degrees C. steam, of course, could not be employed, nor would there be any reason for using it. In conclusion, I may point out that the test which I have described is no more trouble to carry out than the flashing point test, especially in the case of cylinder oils of high flashing point, and it has the advantage of giving quantitative as well as comparative results.

Evaporation Tests of Mineral Lubricating Oils.

Description.	Cylinder Oil. A.	B.			C.
Specific gravity at 60 deg. F.	0.9021	0.8994			0.8928
Flashing point (Pensky) deg. F.	585	512			424
Loss of weight per cent. in 1 hour at 370 deg. F.		(1.)	(2.)	(3.)	
In air; 2 liters per minute..	0.12	0.54	0.56	....	4.18
In steam, 100 cc. water condensed in 1 hour	....	0.70	0.46	0.68	....

Description.	Machinery Oil. D.		Russian.	
Specific gravity at 60 deg. F.	0.8794		0.9088	
Flashing-point (Pensky) deg. F.	402		380	
Loss of weight per cent. in 1 hour at 370 deg. F.	(1.)	(2.)	(1.)	(2.)
In air; 2 liters per minute	16.8	16.3	14.7	14.3
In steam; 100 cc. water condensed in 1 hour	18.1	17.6	16.0	16.7

Muriate of Potash as a Fertilizer.

The Hatch Experiment Station of the Massachusetts Agricultural College has made extensive experiments to determine the value of muriate of potash as a fertilizing agent, and sums up the results in the following paragraphs:

The claim of both muriate and sulphate of potash being economical and efficient forms to supply potash for growing plants is so well established that no further indorsement is called for in this connection. Each form has its special merits with reference to particular fitness in case of different crops.

The liberal use of muriate of potash as a fertilizer constituent renders, in cases where the lime resources of the soil under cultivation are limited, a periodical direct application of lime compounds as a manurial matter advisable.

Muriate of potash is a safer source of potash for manurial purposes upon a deep soil with a free subsoil than upon a shallow soil with a compact clayish subsoil, on account of a possible accumulation of the highly objectionable chlorides of lime and magnesia near the roots of the plants; both are known to prevent a healthy development of the root system.

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OFFER ON SPOT

Howards' English Calomel—We are sole agents for HOWARDS & SONS, LONDON, manufacturers of this old and best known brand. When English Calomel is ordered, please specify HOWARDS. We also offer the pure **Caffeine, Benzoic Acid,** pure from gum, and refined **Camphor,** made by Messrs. Howards.

Crystal Carbolic Acid—We offer the product of CHAS. LOWE & CO., MANCHESTER, ENGLAND, the largest and original makers. Lowe's Acid is well and favorably known, and is strictly U. S. P. The Absolute Phenol, in detached crystals, is very convenient for dispensing, and is the purest form of Carbolic Acid known. On spot we offer 40° crystals in large drums, 35° crystals U. S. P. in all sized packages. Also liquid Carbolic and Cresylic Acid 90-95, Crude acids of all strengths.

Cyanide Potash—We are agents for the GAS LIGHT & COKE CO., LONDON, (W. G. BLAGDEN, Selling Agent), works at Beckton, and offer their product, 99% pure, in 112 lb. Zinc lined cases, on spot and on contract. The Beckton works have doubled their production, and can deliver promptly.

DRUG MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

Complete prices current will be found on pages 35 and 36.

FRIDAY EVENING, July 3, 1896.

The general situation remains quiet, consumers only buying from hand to mouth, but the volume of business is as large as could be expected for this season of the year. Collections are still somewhat slow.

Advanced.	Declined.
Barium nitrate,	Acetanilid,
Gum chicle,	Sugar of milk,
Honey,	Oil anise,
Strontia,	Oil wormwood,
Tahiti vanillas,	Coca leaves,
American saffron,	Canary seed.
Canton cassia,	
Saigon cassia.	

Opium.

The market remains in the same condition as reported last week, but there is a firmer undertone, which was more manifest to-day than earlier in the week. It does not appear possible to buy single cases at less than $2. This is the price for jobbing lots. There has been no inquiry for lots, and not much for single cases. The situation is reviewed editorially in this issue.

Quinine.

The demand has been fairly good in a jobbing way and several 1,000 oz. lots have been sold at 26¼c. At the same time 25,000 ozs, in two lots were taken by pill makers at a price between 25@26c. Several lots in second hands have been seeking buyers, and the price at which the above lots sold, might be shaded. It is understood that some holders having become desirous of closing out their stocks.

Miscellaneous.

ACETANILID—Has been reduced 2c. to 26@26¼c., as to quantity, owing to rather sharp competition between the domestic and imported.

ACID SALICYLIC.—We have not heard of any sales below 40c., but there is a belief that an order could be filled at less, say 39c.

ALCOHOL.—There has been no change in the price, notwithstanding the combination has been dissolved by limitation. Trade is quiet.

BARIUM NITRATE.—The scarcity has become a little more acute, and sales have been made at 8¼c. The closing price is 8¼@9c.

BEESWAX.—Bleachers have paid 28c. Dealers are selling at 29@30c, but trade is quiet

CARNAUBA WAX.—The demand is light at the moment, and with freer arrivals an easier feeling prevails, but the prices are not quotably lower.

CASTOR OIL.—This market is unchanged. Cable information to-day noted an advance in the foreign market of ¼@1c. within a month. This is considered a considerable advance abroad.

COD LIVER OIL—Is in fair demand at $52@56, as to brand.

COLOCYNTH.—Trieste, as to quantity, is 65@70c.

ERGOT. — Spanish is advancing abroad. It is 3c. higher than two weeks ago.

GELATINE.—Japanese is in strong hands, and continues scarce. Quoted 37½c

GLYCERINE.—The situation has not changed. Manufacturers are making many contracts over the year at full prices. The market is firm. In dynamite offers at 15c still hold good and possibly 14¾c will buy. Cables to-day quoted an advance of £2, per ton in London on crude.

HONEY.—The new crop is practically a failure in California. Here there have been several buyers taking advantage of the situation, and stocks have been concentrated, though we only heard of sales of 50 cases. Amber is now 6¼c., and there is no stock of white.

JAPAN WAX.—The Japanese and Hamburg markets have advanced to 8c., c i f laid down here. The spot market is 7¾@8c., as to quantity.

LYCOPODIUM.—Unchanged at 41@43c.

MANNA.—There is promise of a light crop, but nothing definite is yet known.

MENTHOL.—Hamburg offers prompt shipment at 8s. 6d., cif New York, equal to $2.60. The spot price is $3.20@$3.25.

POTASH CYANIDE.—The market is 34c. and sales have been made at this, but this figure might possibly be shaded in exceptional instances for large lots.

QUICKSILVER—Remains at 49½@50c.

SALOL.—The English market is disturbed by threatened competition from France, and the price has dropped 30 per cent., but no change is likely here, as it is a patented article.

SPERMACETI.—There has been some export inquiry, and 50 cases have been taken, understood at 29½c.

STRONTIA NITRATE.—Sales have been made at 9c., and 9@10c. is now quoted.

SUGAR OF MILK —Makers dropped their price 1c. Powdered may now be obtained at 11@12c. for prime and 10c. for the second grade.

Balsams.

COPAIBA.—On arrival of 12 cs Angostura was promptly taken at 38c. The jobbing price is 40@42c. Para is 42c and Central American 37@38c.

Beans.

TONCA.—The arrivals of new crop Angostura have amounted to about 250,000 lbs., all held at $2. Jobbing lots sell at $2.10@2.25, but demand is slack.

VANILLA.—Tahiti have advanced to $3. Bourbons are about out of the market. Mexicans firm and unchanged.

Flowers.

ARNICAS.—Higher in Europe, but 6c. here.

CHAMOMILE. — One letter sstates that there is prospect of there being nothing of the German for export. A few cases of choice, are, however, on the way, and are offering at 22c. to arrive.

INSECT.—Firm at 22@23c for open.

SAFFRON.—American is selling at 24@25c.

Essential Oils.

ANISE.—The persistent offers of oil for forward shipment at lower prices has depressed a dull market to $2.10@2.20.

CASSIA.—Dull at $1.50@1.75.

CITRONELLA.—Featureless at 35@38c.

PEPPERMINT.—There has been a good spot demand, and 2,000 lbs. Wayne County were sold at $1.70. Later advices from the West state the second cutting is generally poor, and that a large part of the first is thin on the ground, and backward from weak roots grasshoppers, and cut worms The in

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ASK FOR SAMPLES AND PRICES.

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ETC., ETC.

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1-4 pound bottles,	per bottle,	$ .46
1-2 pound bottles,	per bottle,	.82
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creased acreage, however, is expected to make up for any threatened deficiency.

SASSAFRAS.—Natural generally 40c. and artificial 30c.

WORMWOOD.—Lots are offering freely and $2.25 will buy jobbing quantities.

Gums.

ALOES.—Arrivals of Curacao in cases were all taken up at 3⅛c., but over 3c. will not be paid for tins. The jobbing price is 3⅛c.

ARABICS.—Firm and without changes.

CAMPHOR.—Not a new feature has transpired. Demand is fair for the season.

CHICLE.—About 60,000 pounds have been purchased at 32½@33c., as to quantity. We quote 32@35c., according to quantity. The market appears firmer.

Herbs and Leaves.

COCA.—Arrivals have depressed the market a little. Huanuco are jobbing at 24c. and Truxillo at 19@20c.

SENNA.—Alexandria Siftings are selling at 9c., although transactions have been made at 8c.

Roots.

BLOOD.—Is in active demand, and sales of 700 lbs. in Baltimore were made at 5@5½c. for New York account. Sales have been here at 7@8c., nearly all for manufacturing purposes.

GINSENG.—A little is offering and dealers are paying $2.75 @ $3.00 for Southern & Northwestern, and $3.25 for State.

JALAP.—Flat at 11@13c. The stock in importers hands is 192 bales.

PINK.—New crop is offering at 25c for true Georgia & 18c for Tennessee.

SARSAPARILLA. The jobbing price has eased off in some quarters to 6½c, and in 10 bale lots there is a strong probability that this would be shaded a little.

SENEGA.—Quiet and unchanged.

Seeds.

CANARY.—Smyrna is 1¾c., Sicily 2½c. and La Plata 1½c. Trade is quiet. The estimates of the new crop vary. They run from 150,000 bags up to 230,000 bags.

CARAWAY.—There is nothing new since last week, and 5¾c. is the price.

CELERY.—Only jobbing, and 10½c. is the price.

CORIANDER.—We have been quoted 2c. for natural, notwithstanding most dealers quote 2¼@2¾. Bleached is 3c.

HEMP.—Only jobbing orders are being filled. Dealers ask 2 3-16c.

MUSTARD.—If flat and unchanged.

RAPE.—German appears to be a little firmer. Quoted 2¼c.

SABADILLA.—The exports from Venezuela in 1895 were 143,440 lbs, valued at $3,260. The bulk went to Germany and France.

Shellac.

The report of last week covers the situation of to-day. There has been a further slight advance in London, and only a demand is needed here to advance prices.

Sponges.

The Florida sheeps' wool crop is all in and has been sold to New York buyers at full prices. Dealers here quote $3.25 per pound.

Spices.

The jobbing demand has shown some increase and Saigon and Canton cassias have advanced, dealers considering the market too low. The former is 31@33c. for rolls and the latter 7½c.

The Austrian Consul at Zanzibar says that the clove planters at Zanzibar and Pemba are in an extremely difficult position, because the price of the article has fallen lower than at any previous time; while the cultivation is being more and more restricted, on account of the increasing difficulty of obtaining the slave labor, by which the plantations are worked. It is thought that after the abolition of slavery the plantations will pass from the hands of their present Arab proprietors into those of Europeans, and that the price of cloves will then gradually advance.

TRADE ITEMS.

Mr. Brent Good and family returned from Europe by the Germanic on Thursday last.

Mr. A. C. Jenkins, of Parke, Davis & Co., has returned from a western trip to remain several days.

Mr. W. S. Meserau, of Schieffelin & Co., has gone to Northern New Jersey to spend a month's vacation.

The Spartanburg Fertilizer Company has been incorporated at Spartanburg, Tenn., with a capital stock of $20,000, by W. A. Burnett, H. C. Robertson and John R. Robertson, jr., for manufacturing fertilizers.

Mr. W. W. White, of the Roessler & Hasslacher Chemical Co., sailed Saturday on the Lucania, to be absent two months. This is Mr. White's first trip in five years to his native land, and we wish him many happy days among the quaint Yorkshire villages.

The Specialty Soap Manufacturing Company, of Philadelphia, Pa., has been incorporated, with a capital stock of $10,000. Incorporators are Isaac Keeler, C. Keeler, Charles M. Butterworth, M. P. Bush, T. F. Phillips and Charles W. Bush.

The People's Cotton Oil Company has been organized at Lafayette, La., with a capital stock of $50,000, and the factory will be in operation this Autumn. A contract has been closed with the Stillwell-Bierce & Smith-Valle Company, of Dayton, Ohio, for the construction of the plant, to be completed by Oct. 1. The officers of the company are as follows: O. Mouton, president; J. J. Davidson, vice-president; Crow Girard, treasurer; S. M. Parkerson, secretary, and T. M. Brossant, manager. The directors are P. B. Roy, John Whittington, sr., J. J. Davidson, Edward Estorge, J. O. Broussard, Crow Girard, S. R. Parkerson and Charles O. Mouton. The plant will have a capacity of forty tons per day.

Grateful Retail Druggists.

The annual meeting of the Ohio State Pharmaceutical Association was held at Put-in-Bay last week, and one of the features was an excursion to that point tendered the retailers of Toledo by the Walding, Kinnan & Marvin Company. Our correspondent, who was one of the party, writes that the commissariat was in charge of Mr. Walding, which statement leaves nothing to the imagination as to the completeness of the provisions for feeding hunger and quenching thirst, and accounts, in some measure, for the gurgling eloquence of the resolutions appended hereto. Mr. John Kinnan, we are advised, took charge of the pilot house, and under his careful direction the captain was able to safely bring his craft down the turbulent Maumee, across the lake, and around the dangerous headlands of Big Bass and Gibraltar islands, into port. The appreciation of the retailers is breathed in every line of the subjoined preamble and resolutions:

Whereas, We, the poor, over-worked and under-paid druggists of Toledo, who are not only accustomed but compelled, in order to earn a scanty substance, to work day and night, and, like the laborer working the vineyard, receive for our long hours only the same reward as those who work but the short eleventh hour.

And Whereas, Owing to these unfortunate conditions, we very seldom have the opportunity of enjoying an outing.

And Whereas, Owing to the kindness and generosity of the Walding, Kinnan & Marvin Company in providing for us, free of expense, the handsome and pleasant steamer Visitor, thus enabling us to enjoy this delightful trip to Put-in-Bay and Hotel Victory; a trip which, to us poor, over-worked geniuses of toil, is like freedom to the imprisoned bird, water to the parched and thirsty traveler on the desert sand; like food to the hungry; like sleep to the weary; like the smile of the first-born son to the young mother; like the first ray of hope to the disconsolate lover.

Be it Therefore Resolved, By the undersigned druggists of Toledo, that our sincere and hearty thanks are due to the Walding, Kinnan & Marvin Company, for furnishing us so generously this great unexpected pleasure, and that we wish them success and prosperity, both as a firm and individually, and that their future course in life be as smooth and calm as this lake over which we are passing this morning.

Resolved, That these resolutions be published in the papers and that an engrossed copy be presented to the Walding, Kinnan & Marvin Company.

Visitors at the Drug Trade Club.

The following visitors registered at the Drug Trade Club during the week: M. B. Williams of New York and H. F. Lydecker of Maywood, N. J., introduced by B. F. Wakefield; W. H. Taylor of New York, by H. C. Peters; Samuel C. Moore of Mexico City, by A. H. Schuyler; Q. J. MacMahan of New York, by Benjamin Lillard; Thomas M. Curtiss of Chicago, by F. L. Stillman; Dr. Schweitzer of New York, by A. H. Mason, and Mr. Rossiter of Humiston, Keeling & Co., Chicago, by John F. Queeny.

Chicago Flaxseed Inspection.

The Chicago Board of Trade has adopted the following revision of the rules regulating the inspection of flaxseed:

No. 1 Northwestern—All Northern-grown flax or seed of equal quality that is choice or prime, as also the same moderately intermixed with field damaged seed, dry, sweet, and free from mustiness, and having weight of not less than fifty pounds to the measured bushel of commercially pure seed shall be No. 1 Northwestern.

No. 1 flaxseed—That which is choice or prime, as also the same moderately intermixed with a mixture of field damaged, dry, sweet, and free from mustiness, and have weight of not less than fifty pounds to the measured bushel of commercially pure seed shall be No. 1.

Rejected—Flaxseed that is damp, immature, and field damaged or musty (and yet not to that degree to be unfitted for temporary storage) shall be rejected.

No grade—Flaxseed that is warm, moldy, very musty, wet, or otherwise unfitted for storage, or having weight of less than forty-seven pounds to the measured bushel of commercially pure seed shall be no grade.

Rates to the N. W. D. A. Meeting.

Upon the application of Mr. E. H. Buehler, chairman of the Committee on Routes and Rates, the Trunk Line Association has granted the usual one and a third rate to delegates to the N. W. D. A. meeting at Philadelphia, October 5 to 9, 1896. The other associations will doubtless promptly confirm this rate, and Mr. Buehler will then arrange the routes for the crowds which he hopes to bring on from the West. The Entertainment Committee, under the able direction of Major H. C. McIlvaine, is laying out a programme that will be a record-breaker, and, with the interest which the pending litigation is likely to excite in the association and the rebate plan, the attendance will doubtless be very large from all sections. Philadelphia is now well equipped in the matter of hotels, and Schuylkill water is filtered at all places where it is served, but this is really of little consequence when one is in the hands of the hospitable entertainers of that city.

The Theo. Ricksecker Company.

Articles of incorporation have been filed at Albany by The Theo. Ricksecke Company, which has purchased the stock and other assets from the assignee of Theo. Ricksecker, and is to continue the business heretofore carried on by him at No. 58 Maiden Lane. The incorporators of the new Company are:—Theo. Ricksecker,; Frank B. Marsh, son of the late Edward H. Marsh of the old drug firm of Lazell, Marsh & Gardiner, and for the last eight years in charge of the manufacturing interests of Lazell, Dalley & Company, manufacturing perfumers; Lowell M. Palmer, President of the Brooklyn Cooperage Company, Palmer's River & Harbor Transportation Company, who is also identified with several Trust Companies and Banks in this city, and in Brooklyn; A. Ward Brigham, Treasurer of the Brooklyn Cooperage Company, and Mr. James Macnaughtan, president of the Tradesmen's National Bank, identified also with the New York Wool Warehouse Company, and the Merchant's Safe Deposit Company. The capital is $40,000, fully paid in, in cash.

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Monarch, Peoria.

Woolner, Peoria.
Manhattan, Peoria.
Central, St. Louis.
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Which are absolutely tasteless, colorless and odorless.

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SODA ASH, all strengths, by AMMONIA and LE BLANC PROCESSES, REFINED ALKALI, all strengths BICARBONATE OF SODA, high strength.

CRYSTAL CARBONATE
CAUSTIC SODA 60% to 77%
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Oils, Etc.

Vegetable Oils.

Linseed, city, raw, in bbls.....per gal.	— @37
boiled, in bbls.....	— @39
Out of town on spot.....	— @37
Calcutta, raw, in bbls.....	— @52
Varnish oil, American.....	45 @50
Calcutta.....	55 @60
Cottonseed crude, prime.....	21 @
" " f. o. b. mills....	16 @17½
Crude, off quality.....	19 @20
Yellow summer, prime.....	25 @
Yellow summer butter.....	27 @27½
Yellow summer, off quality..	24½ @24½
White summer.....	26½@27½
Yellow winter.....	30½@33
White winter.....	32 @35
Soap stock.....per lb	5½@
Olive.....per gal	48 @52
Soap stock.....per lb.	4¼@ 4½
Palm, prime.....	4½@ 4¾
Lagos.....	4⅞@ 5
Castor No. 3.....	8¾@ 9¼
Cocoanut, Ceylon.....	5¼@ 5¼
Cochin.....	5½@ 5¾
Corn.....	26 @28
Peanut, white.....	49@50
yellow.....	44 @45
Rosin, first run.....per gal.	9 @10
Second run.....	11 @12
Third run.....	13 @14
Fourth run.....	15 @17
Rapeseed, in bbls.....	52 @56
Mustard.....	34 @38

Animal and Fish Oils.

Whale, natural winter.....gal.	— @36
Natural spring.....	— @—
Bleached spring.....	— @—
Bleached winter	— @40
Extra bleached winter.....	— @43
Sperm, crude.....	42 @44
Natural winter...	44 @—
Bleached winter...	49 @—
Natural spring.....	41 @—
Bleached spring.....	46 @—
Sea elephant, bleached winter.....	— @44
Unbleached winter.....	— @—
Seal bleached water white.....	— @—
Steam refined.....	— @—
Lard, prime	38 @44
Extra No 1.	34 @36
No. 1.....	30 @32
No. 2.....	28 @30
Menhaden, prime crude.....	20 @22
Good merchantable.....	18 @19
Brown strained.....	23 @24
Light strained.	24 @25
Bleached winter.....	28 @—
Extra bleached winter white	30 @—
Bank.....	23 @24
Straits.....	23 @25
Herring.....	— @—
Cod, domestic, prime.....	24 @27
Newfoundland.....	27 @29
Black fish, crude.....	— @—
Natural.....	— @39
Bleached winter.....	— @44
Degras, English.....	2½@ 3
German.....	1½@ 2½
French.....	5 @ 5½
Sod.....	30 @32
Tallow, prime.....	38½@40
Neatsfoot prime.....	65 @70
No. 1.....	45 @48
No. 2.....	38 @40
Elaine red.....	28 @32
Saponified red..... ₩ lb.	3½@ 3¾

Mineral Oils.

Black reduced, 29 gravity, 25@30 c t....	8 @ 9
29 gravity, 15 cold test...	8½@9¾
29 gravity, zero.....	11½@12
Summer.....	7 @ 7¼
Cylinder, light filtered.....	13½@25½
Dark filtered.....	11½@16½
Extra cold test.....	21½@25½
Dark steam refined.....	8½@13½
Natural, Franklin, 32 gravity.....	12½@16
Smith's Ferry, 33@34 gravity..	8½@ 9
West Virginia, 29 gravity.....	24½@25
Neutral filtered, lemon, 33@34 gravity...	13½@18
White, 33@34 gravity...	21½@28
32@34 grav. bloomless.	13½@18
32 grav. wool grade....	10½@14
Paraffine, high viscosity.....₩ gal.	20 @25
23½@24 gravity.....	12 @13
25 gravity.....	11 @11½
28 gravity.....	8½@ 9
30 gravity.....	7¾@ 8
32 gravity.....	7½@ 8
Red paraffine No. 1.....	11 @11½
No. 2.....	— @10½
Spindle No. 1 Filtered.....	15½@16
No. 1.....	12½@13
No. 2.....	11½@12
No. 3.....	10½@11
No. 4.....	9½@10

Oil Cake, Meal, Etc.

Calcutta cake, city..... ₩ ton	— @17 50
City domestic.....	— @16 50
Western, in bags.....	— @16 25
Cottonseed cake at Memphis.....	16 25@ —
at New Orleans.....	17 25@ 17 50
at New York.....	— @ —
State domestic meal..... ₩ ton.	— @18 00
Cottonseed meal at Memphis.....	16 00@16 25
at New Orleans.....	17 50@18 00

Wax, Lard, Tallow, Etc.

Paraffine wax, crude..... ₩ lb.	3 @ 3½
Refined 115 m. p.....	— @ 5
120 "	— @ 5
125 "	— @ 5½
130 "	— @ 6½
135 "	— @ 7
140 "	— @10
Candles, paraffine, 4s, 6s, and 12s.....	7½
Candles, Adamantine, 6s, 14 oz.....	8¼@10
12 oz.....	— @ 9
12s, 16 oz.....	10½@12
14 oz.....	9½@11
12 oz.....	— @10
Patent sperm, 4s and 6s.....	.43 @44
Sperm, 4s and 6s.....	38 @39
Stearic acid, solid.....	8¾@ 9¼
cake.....	9¼@10
Lard, Western, spot.....	4 25 @4 30
futures.....	4 20 @4 25
Oleo stearine.....	4½@4¾
Tallow.....	3½@3½

Naval Stores.

Spirits turpentine.....per gal.	25½@ 26
Rosin, Strained.....per bbl.	— @1 67½
Good strained.....	— @ 170
E.....	177½@1 85
F.....	185 @1 90
G.....	190 @1 95
H.....	197½@ 2 00
I.....	— @2 05
K.....	— @2 07½
M.....	— @2 10
N.....	— @2 20
Window glass.....	— @2 30
W. W.....	— @2 50
Tar, regulars.....	— @1 65
oil barrels.....	3 20 @3 25
Pitch.....	1 85 @1 90

Paints, Varnishes, Etc.

White Lead, Zinc, Etc.

White lead, American dry.....₩ lb.	4½@ —
in oil.....	5½@ 6
English in oil.....	6 @ 7
Litharge, American powdered.....	4½@ 5
English flake.....	6½@ 7
Glassmakers'.....	4½@ 5
Red lead, foreign.....	5 @ 5½
American.....	4½@ 5
Orange mineral, American.....	6½@ 6¾
English.....	6½@ 7½
French.....	8¾@ 9
German.....	6½@ 7
China white.....	8 @ 9
Flake white.....	5 @ 8
Cremnitz white.....	13 @18
Zinc white, Paris, G. S., 50 bbls.....8¼ less	4 ₩ ct
G. S., 25 bbls.....8¼	2 ₩ ct
G. S., 10 bbls.....8¼	1 ₩ ct
R. S., 50 bbls.....6¼	4 ₩ ct
R. S., 25 bbls.....6¼	1 ₩ ct
R. S., 10 bbls.....6¼	1 ₩ ct
Antwerp, R. S., 50 bbls.6	4 ₩ ct
R. S., 25 bbls.....6	2 ₩ ct
R. S., 10 bbls.....6	1 ₩ ct
G. S., 50 bbls.....6¼	4 ₩ ct
G. S., 25 bbls.....6¼	2 ₩ ct
G. S., 10 bbls.....6¼	1 ₩ ct
G S. in poppy oil.....	9¼@10¼
R. S. in poppy oil....	8¼@ 9
French in varnish.....	16½@20
American extra, dry.....	3¾@ 4½
In oil.....	5¾@ 6¼
In varnish.....	13 @18
German.....	5½@ 5¾

Dry Colors.

REDS.

Carmine, No. 40..... ₩ lb.	2 18 @2 50
Crocus martus, imported.....	2¾@ 3¾
standard Am'can...	1 @ 2¼
Indian red, standard American.....	2 @ 3
English.....	4½@ 5½
Rose pink, American.....	8 @ 9½
English.....	7½@ 9
Tuscan red, English.....	7 @ 10
Turkey red, English.....	7½@ 10
Venetian red, English, prime.....	1 50 @1 75
2d quality...	1 00 @1 65
American.....	60 @ 70
Vermillion, imported English.....	62 @1 35
Am. quicksilver, bulk...	54 @ 55
bags...	55 @ 57
Chinese.....	70 @ 75
American.....	14 @ 16
Artificial.....	12 @ 20

BLACKS.

Carbon.....	6 @10
Drop, American.....	2¾@ 4
English.....	5 @10
Ivory.....	9 @20
Lamp, commercial.....	3¾@ 5
refined.....	5 @10
calcined.....	12 @20
fine spirit.....	20 @30

BLUES.

Celestial.....	5½@ 8
Chinese.....	32 @35
Prussian.....	32 @35
Prussian Foreign.....	27 @34
Refiners'.....	60 @70
Soluble.....	35 @36
Ultramarine.....	7 @25
Verditer.....	25 @30

BROWNS.

Sienna, Italian, burnt & powdered.....	2½@ 3½
burnt lumps..... ₩ lb.	1½@ 3
raw, powdered.....	2½@ 2¾
raw, lumps.....	1½@ 3
American burnt and powdered.	1½@ 1½
raw.....	1½@ 1½
Spanish brown.....	½@ 1
Umber, Turkey, burnt & powdered.....	2½@ 2½
burnt lumps.....	2½@4
raw and powdered....	2½@ 3
raw, lumps.....	2½@ 2½
American, burnt	1½@ 1½
raw.....	1½@ 1½
Vandyke brown, German.....	2½@ 5½
American.....	1½@ 2½

GREENS.

Chrome, chemically pure.....	22 @25
extra.....	12 @13
super	
Chrome, common.....	5 @ 6
Paris, pure.....	12¾@13
in pulp.....	— @—
Verdigris, French.....	16 @20

YELLOWS.

Chrome.....	10 @25
Ocher, Rochelle.....	1 10@1 20
washed Dutch.....	4¾@ 5
French.....	1 @ 1¾
golden.....	2½ @ 4
domestic.....₩ ton.....	8 8 00@18 00

Miscellaneous.

Barytes, prime white.....₩ ton.	14 00 @17 00
foreign floated.....	15 00 @18 00
domestic floated.....	22 00 @23 00
off color.....	10 00 @13 00
Crude, No. 1.....	9 00 @10 00
No. 2.....	8 00 @ 8 25
No. 3.....	7 75 @ 8 00
Blanc fixe..... ₩ lb	2¼@ 2¾
Bronze powder.....	45 @ 2 50
Brocades.....	45 @ 1 00
Chalk..... ₩ ton.	2 0 @ 2 25
Clay, China, imported.....₩ ton.	11 00 @18 00
domestic.....	8 00 @10 00
Cobalt oxide..... ₩ lb.	1 60 @ —
Feldspar..... ₩ ton.	12 50 @16 00
Fullers Earth lump.....	— @ 75
Powd.....	70 @ 75
Marble dust..... ₩ bbl.	1 25 @ 1 50
Manganese Car lots.....	15 00 @17 00
Jobbing.....	3 @ 5
Magnesite, raw.....	7 00 @ 8 00
ground.....	1¾@ 1¾
Plaster.....	1 25 @ 1 40
dentists'.....	1 75 @ 2 00
Pumice stone, orig'al cks....₩ lb.	2 @ 2¼
selected lumps in bbls....	5 @ 12
powdered pure, in bbls ...	2 @ 2¼
Putty, in bulk.....	1 45 @ 1 75
bladders.....	1 85 @ 2
tins.....	2 @ 2¼
Rottenstone, originally.....	6 @ 7¾
Selected, lumps....	5½@ 12
powdered, in bbls...	3½@ 3½
Silex..... per ton.	13 00 @20 00
Smalt, German blue..... per lb.	15 @ 16
super black.....	— @ —
Talc, American..... per 100 lbs.	40 @ 60
French.....	95 @ 1 50
Terra alba, American No. 2.....	45 @ 50
English.....	75 @ 80
French.....	70 @ 75
Whiting, commercial.....	40 @ 45
Gliders'.....	50 @ 55
extra gliders'.....	55 @ 60
American, Paris.....	65 @ 70
English cliffstone.....	90 @ 1 35

Glues.

Extra white..... per lb.	15 @25
Medium white.....	10 @15
Cabinet.....	11 @15
Low grade.....	7 @ 9
Foot stock, white.....	8 @15
brown.....	7 @12
Irish.....	10½@12½
French.....	9 @24
German hides.....	13 @16
common.....	9 @12

Varnish Gums.

Asphaltum, Cuban, prime.....	4 @ 6
Egyptian.....	6½@ 8
Copal, Sierra Leone, cleaned....per lb.	40 @50
Zanzibar, bold white.....	60 @65
medium white.....	50 @55
bean and pea.....	35 @40
Manila, pale.....	17 @25
bright amber.....	13 @17
standard.....	9½@10½
Damar, Batavia.....	18 @21
Kauri, standard.....	19 @21
No 2.....	13 @14
hard scraped.....	24 @26
light hard scraped.....	35 @40
picture quality.....	65 @70
pale and fine selected.....	45 @60
Sandarac.....	20 @22

Glass.

WINDOW GLASS.

SINGLE.

United Inches	Sizes.	Prices per Fifty feet. 1st.	2d.	3d.	4th.
25	6x 8 to 10x15.	$6 50	$6 00	$5 75	$5 50
40	11x14 to 16x24..	7 50	6 75	6 50	6 00
50	18x22 to 20x30..	10 50	9 50	9 00	8 25
54	15x36 to 24x30..	11 50	10 00	9 25	....
60	26x28 to 24x36..	12 00	10 50	9 50	....
70	26x36 to 26x44..	12 75	11 75	10 25	....
80	26x46 to 30x50..	15 00	13 50	12 00	....
84	30x52 to 30x54..	15 50	13 75	12 25	....
90	30x56 to 34x56..	16 50	14 75	13 50	....
94	34x58 to 34x60..	17 25	15 75	14 50	....
100	36x60 to 40x60..	19 00	16 75	15 75	....

DOUBLE.

United Inches	Sizes.	Prices per Fifty feet. 1st.	2d	3d.	4th.
25	6x 8 to 10x15.	$9 00	$8 00	$7 75	. ..
40	11x14 to 16x24..	10 25	9 25	9 00	....
50	18x22 to 20x30..	14 00	12 75	12 00	....
54	15x36 to 24x30..	15 25	13 75	12 25	....
60	26x28 to 24x36..	16 00	14 50	13 25	....
70	26x36 to 26x44..	17 25	15 50	14 00	....
80	26x46 to 30x50..	19 75	18 00	16 00	....
84	30x52 to 30x54..	20 50	18 50	16 50	....
90	30x56 to 34x56..	21 50	19 75	18 00	....
94	34x58 to 34x60..	22 75	21 25	20 00	....
100	36x60 to 40x60..	25 50	23 00	22 00	....

On the 70 in. bracket and above, French is quoted $1 higher on single and $1 50 on double. An additional 10 per cent. will be charged for all glass more than 40 inches wide. All sizes above 52 inches in length, and not making more than 81 united inches, will be charged in the 84 united inches bracket. Sizes above—$10 per box extra or every 5 inches on French. Discounts on French, 75@70 & 10. Discount on American 70 & 10@70,10 & 5 per cent. On the first and second bracket off each quality, single and doub American is quoted 50c. per box higher

Metallic Paints.

Brown.....	@22 00
Red.....	@22

Colors in Oil.

Black Japan.....per lb.	18½@20
in oil.....	12 @18
drop,	7½@10
lampblack, prime.....	27 @30
medium.....	15 @20
2d quality.....	13 @19
low grade.....	6½@10
Blue, Chinese.....	35 @40
Prussian.....	20 @40
ultramarine.....	12 @16
Brown, sienna, burnt.....	7 @10
raw.....	7 @10
umber, burnt.....	@10
raw.....	7 @10
Vandyke.....	7 @11
Green, chrome.....	8 @14
Paris.....	16 @18¼
Red, Indian.....	12 @15
Venitian.....	4½@ 8
Yellow, Chrome.....	13 @18
Ocher, French.....	4½@

Drugs.

Opium.

Opium, natural (cases)..... ₩ lb.	— @2 00
as wanted.....	— @2 00
powdered.....	2 60 @2 70

Morphine.

Morphine, Am. bulk..... ₩ oz.	1 35 @1 50
Eng "	— @ —
Ger "	— @ —

Quinine.

Quinine, bulk ..... ₩ oz.	26 @30
Cinchonidia, American, bulk.....	6 @—
German "	6 @—

Miscellaneous.

Acetanilid, in barrels..... ₩ lb.	26 @ 28½
Acid, benzoic, true..... ₩ oz.	6¾@ 6¾
ex. tolnol....₩ lb.	48 @ 48½
boracic, crystals.....	9 @ 9¼
flaky.....	7 @ 8
powdered.....	9½@ 9¾
carbolic, drums.....	16 @ 17½
bottles	— @ 28
tins.....	16 @ 20
citric, barrels.....	— @ 35½
kegs.....	— @ 36
pyrogallic	2 45 @ 2 85
salicylic.....	40 @ 42
Alcohol, 94⅗..... ₩ gal.	2 31 @ 2 34
ref. wood, 95⅗.....	90 @ —
97⅗.....	95 @ —
purified.....	1 20 @ 1 50
Almond oil, sweet..... ₩ lb.	17 @ 30
Ambergris, black..... ₩ oz.	15 00 @17 50
grey, prime.....	27 50 @ —
fair.....	22 50 @ —
Ammonia, carb, domestic...₩ lb.	8 @ 8½
foreign.....	— @ 8
Antimony, Japan needle.....	— @ ⅛
Arrowroot, Bermuda.....	32 @ 35
American.....	4½ @ —
St. Vincent, bbls.....	3½ @ 4
cans.....	— @ 6
Barium chloride.....	2½@ —
chlorate.....	31 @ 35
nitrate.....	8½@
Barbadoes tar, in bbls.....₩ gal.	35 @ —
Bay rum, imported, pch.....	— @ 1 80
bbls.....	— @ 1 85
octaves.....	— @ 2 00
Beeswax, white, pure..... ₩ lb.	45 @ 50
yellow	29 @ 30
white, ordinary	30 @ 40
Bismuth, citrate.....	1 45 @ 1 50
subcarbonate.....	1 00 @ 1 05
subgallate.....	1 50 @ 1 60
per oz.....	— @ 11
subnitrate.....	85 @ 90
Blue Pill	33 @ 34
Borax.....	5¾@ 6
in bags.....	5¼@ —
powdered.....	5¾@ 6
concentrated.....	5¼@ —
Bromine, bulk.....	43 @ 48
Burgundy pitch.....	— @ 2¼
Caffeine.....	5 50@ —
Calomel, American.....	65 @ 67
English.....	— @ 75
Cantharides, Chinese.....	— @ 25
powdered....	— @ 30
Russian.....	50 @ 55
powdered....	60 @ 65
Carnauba wax No. 1.....	— @ 33
No. 2.....	21 @ 25
No. 3.....	20½@ 23
Castor oil, city, bbls.....	9½@ 10
cases.....	10 @ 10½
Castile soap, white, pure.....	9½@ 9¾
green, pure.....	7¾@
ordinary.....	6½@ 7
mottled, pure.....	— @ 5
ordinary.....	4 @ —
Chalk, precip.....	4½@ 5¾
Chloral hydrate, crusts, 28 lb. jars	75 @ 77½
crystals, 28 lb. j's	80 @ 82½
Ceresin, yellow.....	11 @ 11¾
white.....	13 @ 14
Chloroform.....	50 @ 60
Cocaine muri, 100 oz, bulk...₩ oz.	3 75 @ —
bulk....	2 95 @ —
oz vials.....	3 80 @ 4 00
Cocoa butter, domestic, boxes.₩ lb	37 @ —
foreign, bulk.....	30½ @ 31
boxes....	37 @ —
Cod liver oil, Newfoundland ₩ gal	85 @ 1 00
Norwegian....₩ bbl.	52 00 @ 56 00
Colocynth apples, Spanish...₩ lb.	22 @ 24
Trieste.....	65 @ 70
Corrosive sublimate.....	— @
Coumarin, crude.....	— @12
refined.....	9 00 @10 00
Cuttlefish, Trieste.....	— @ 2¾
Marseilles.....	— @

Cologne spirit	190°	₩ gal.	$1 25
Dragon's blood, mass	₩lb.	18 @	22
reeds		— @	45
Epsom salts, per 100 lbs		1 00 @	1 10
Ergot, German		— @	12½
Spanish		16 @	17
Ether, 1850		— @	57
washed		— @	61
1880		— @	64
Gelatine Japanese		37½@	—
Glucose 44°		— @	1 20
Glycerine, C P. drums		16¼@	17
C.P bbls		17½@	17
C P cans		17½@	18
Dynamite		15 @	—
Grape sugar 44°		— @	1 25
Guarana, whole		50 @	52½
Harlem oil		1 80 @	2 00
Hypophosphite, lime		1 02½@	1 07½
potash		1 02½@	1 07½
soda		1 02½@	1 07½
Iceland moss		5 @	6
Insect powder		20 @	25
Iodine, re-sublimed		3 45 @	3 50
Iodoform		4 00 @	4 05
Irish moss, ordinary		6¼@	7
bleached		11 @	12
Isinglass, Russian, bleached		3 00 @	3 10
unbleached		2 75 @	3 00
American		— @	35
Japan wax		7¾@	8
Licorice, mass, domestic Greek		8 @	12
Spanish		17 @	24
domestic Spanish		17 @	24
stick, domestic brands		16½@	23½
foreign brands		21½@	26½
Lithia, carb		3 00 @	3 20
Lupulin, American		— @	35
German		— @	35
Lycopodium		41 @	43
Manna, large flake		— @	45
small flake		— @	18
sorts		17 @	—
Menthol		3 20 @	3 25
Myrbane oil		11 @	11¼
Musk, pods, Cab	₩ oz.	4 00 @	6 00
Nepaul		14 00 @	18 00
Tonquin		10 00 @	15 00
grain, Cab		7 50 @	8 50
Canton, extra		— @	1 00
good		18 00 @	20 00
Nepaul		18 00 @	19 00
Tonquin		19 00 @	20 00
druggists'		17 00 @	18 00
Mustard oil		— @	45
Naphthaline, ball	₩ lb	2¾@	—
crystals		2¾@	3
flakes		2¾@	—
Nux vomica		17½@	2¼
Olive oil, Marseilles	₩ gal.	— @	1 45
Malaga		53 @	54
Phosphorus	₩ lb.	50 @	75
Precipitate, red		75 @	77
white		80 @	82
Potash Perman		20 @	21
Potassium, bromide, bulk		39 @	41
cyanide "		— @	74
iodide "		2 75 @	2 80
Quicksilver		49½@	50
Rochelle salts		— @	30½
Salicine, bulk		2 50 @	2 65
Salol, bulk		3 10 @	3 20
1 lb bots		3 10 @	3 20
½ lb bots		3 15 @	3 55
¼ lb bots		3 25 @	3 65
ounces		25 @	70
Santonine		— @	3 00
Sesame oil	₩ gal.	60 @	70
Silver nitrate	₩ oz.	45½@	47
Spermaceti, blocks	₩ lb.	29½@	31
cakes		31 @	32
Strontia, nitrate		9 @	10
St. John's bread		1¾@	2¼
Sugar of milk, cob		18 @	—
powdered		11 @	12
Sulphur, roll		1 25 @	1 30
flour		1 25 @	1 30
Strychnine	₩ oz.	1 15 @	1 25
Tamarinds	₩ keg.	2 75 @	—
Thymol	₩ lb.	1 75 @	1 80
Venice turpentine	₩ lb.	— @	15
Zinc chloride, gran		— @	5½
sulphate		2¼@	2½

Balsams.

Copaiba—Central American		37 @	38
Angostura		40 @	42
Para		— @	42
Solidifiable		— @	50
Fir—Canada	₩ gal	1 90 @	—
Oregon		60 @	70
Gurjun	₩ lb	10 @	15
Peru		1 90 @	—
Tolu		— @	52

Barks.

Angostura	₩ lb	— @	6
Bayberry		— @	3¼
Buckthorn		— @	3½
Cascara sagrada		3¾@	4
Cascarilla		— @	7½
Canella		— @	3¾
Cinchona—Calisaya		18 @	—
Cuprea		6 @	7
Loxa, quill		20 @	22
Red R		19 @	—
Yellow		14 @	—
Condorango		— @	18
Coto		— @	12
Elm, common		5½@	6
select		9¼@	9½
Mezereon		— @	9
Oak, red		1¾@	2
white		1¾@	2
Orange peel—Curacoa		— @	3½
Malaga, ribbons		4 @	5
quarters		7 @	7½
Trieste		4½@	4¾
Prickly ash		— @	5
Pomegranate of fruit		8 @	10
of root		— @	14
Quebracho		8 @	8½
Sassafras		— @	6
Simaruba		16 @	25
Soap, whole		— @	3½
crushed		3½@	5½

Beans.

Calabar	₩ lo.	8 @	10
St. Ignatius		25 @	—
Tonka—Angostura		2 10 @	2 25
Para		20 @	25
Vanilla—Mexican, whole		7 00 @	10 00
cuts		6 50 @	—
Bourbon, whole		7 00 @	8 00
Tahiti, whole		3 00 @	—

Berries.

Cubeb	₩ lb.	7 @	8
Fish (Coculus Indicus)		— @	3½
Juniper		1¾@	1¾
Laurel		4½@	5
Prickly ash		15 @	16

Essential Oils.

Almond—bitter, true	₩ lb	— @	4 25
English		6 00 @	—
artificial		— @	95
Amber—German, crude		14 @	15
rectified		— @	25
Anise		2 10 @	2 20
Bay—per bottle of 24 ozs		4 25 @	4 50
Bergamot—prime		1 90 @	2 60
good		2 25 @	—
Cade		14 @	17
Cajeput—native		45 @	50
ordinary		35 @	—
Camphor		13 @	14
Caraway seed		1 20 @	1 35
twice rectified		1 45 @	1 60
Cassia		1 50 @	1 75
Cedar leaf		35 @	40
Cinnamon Ceylon, heavy		8 00 @	10 00
Citronella, native		35 @	38
Cloves		40 @	45
Copaiba		60 @	65
Coriander		10 00 @	14 00
Croton, as to color		75 @	80
Cubeb		1 00 @	1 10
Cummin—prime		3 25 @	3 50
No 2		— @	2 50
Erigeron		75 @	—
Eucalyptus, American		65 @	70
Australian		70 @	75
Eucalyptol		1 85 @	2 00
Fennel seed		— @	1 50
Geranium, Turkish		3 00 @	—
rose French		10 00 @	15 00
African		6 50 @	8 00
Hemlock		35 @	40
Juniper—rectified		75 @	80
twice rectified		1 25 @	1 40
wood		25 @	26
Lavender flowers		1 20 @	1 35
garden		35 @	50
spike		75 @	—
Lemon prime		1 10 @	1 25
good fair		1 00 @	—
concentrated		— @	40 00
Lemongrass, native		70 @	75
Mace, expressed		1 00 @	1 15
Malefern		1 75 @	1 90
Mustard—natural		7 00 @	7 50
artificial		3 75 @	4 40
Neroli—petale, big		28 00 @	31 00
bigarade		— @	21 00
Nutmegs, native		1 50 @	1 75
Orange, bitter		2 75 @	3 00
sweet		1 55 @	2 12½
concentrated		— @	55 00
Origanum		16 @	22
Patchouly—leaf, natural		— @	5 00
cultivated		— @	6 90
Pepper, commercial		70 @	75
Peppermint—Western, cans		1 50 @	—
Wayne county, cans		1 65 @	1 70
cases		2 05 @	2 10
Pennyroyal		— @	90
Petit grains, French		4 25 @	4 50
Pimento		1 35 @	1 50
berries		1 75 @	1 90
Rhodium—No. 1		6 00 @	—
No. 2		— @	2 50
Rose, as to brand	₩ oz.	6 50 @	8 50
Rosemary—commercial	₩ lb.	25 @	—
Trieste		— @	42
flowers		75 @	—
Sandalwood—East India		4 50 @	—
West India		2 00 @	2 25
Australian		4 00 @	4 25
Sassafras—natural		— @	40
artificial		— @	30
Spearmint		2 00 @	2 10
Spruce		0 @	—
Tansy		1 65 @	1 75
Thyme—red, French		55 @	85
white, French		85 @	1 00
Wintergreen—natural		1 20 @	—
artificial		50 @	55
Wormseed—Baltimore		1 90 @	2 00
Wormwood, pure		2 25 @	—
Ylang ylang—Manila		35 00 @	—
French		50 00 @	75 00

Flowers.

Arnica		6 @	—
Chamomile, Belgian		10½@	12
German		12 @	15
Insect		22 @	23
Lavender, ordinary		2½@	3½
extra		4 @	4½
Rosemary		15 @	—
Saffron, American		21 @	23
Alicante		4 75 @	5 00
Valencia		5 75 @	—

Gums.

Aloes, Barbadoes	₩ lb.	4½@	5
Cape		— @	7
Curacao		3½@	—
Socotrine, true		— @	17
Ammoniac		23 @	25
Arabics, Firsts		— @	57
Seconds		— @	37
Thirds		— @	30
Fourths		— @	24
Siftings		13 @	15
Sorts		— @	21
Asafoetida		12 @	13
Benzoin		25 @	38
Camphor, American bbls		— @	40
cases		— @	41
Compressed		40 @	42
Japan		45 @	45
Chicle		33 @	35
Euphorbium		— @	15
Galbanum		70 @	75
Gamboge		46 @	48
Guaiac, ordinary		12 @	—
medium		18 @	—
select		22 @	—
Kino		— @	2 50
Mastic		42 @	43
Myrrh		16 @	15
Olibanum, siftings		4 @	—
sorts		5½@	—
tears		6¼@	—
Sandarac		— @	18
Scammony, Aleppo		2 75 @	3 00
resin		4 00 @	4 25
Senegal, picked		18 @	24
sorts		15½@	16
Tragacanth, Aleppo, Firsts		67 @	70
Seconds		57 @	65
Thirds		48 @	53
Fourths		38 @	45
Turkey, Firsts		65 @	75
Seconds		48 @	58
Thirds		— @	45

Herbs and Leaves.

Aconite	₩ lb.	10 @	11
Althea		6 @	8
Belladonna		8 @	10
Buchu, short		7 @	9
long		12 @	15
Coca, Huanuco		— @	24
Truxillo		19 @	20
Deer Tongue		— @	3½
Damiana		6 @	7
Digitalis		6½@	7
Doggrass		— @	4
Eucalyptus		— @	3½
Grindelia robusta		4 @	4½
Henbane (hyosciamus)		7 @	8
Horehound		— @	5
Indian hemp (Cannabis Indica)		— @	8
Jaborandi		— @	11
Laurel		3 @	3½
Lobelia		6½@	7
Matico		— @	40
Marjoram, German		14½@	16
French		10 @	12
Prince's pine		5 @	6
Rose, red		— @	60
pale		— @	18
Rosemary		3 @	4
Rue		10 @	12
Sage, Italian		3½@	3½
Savory		3½@	5
Senna, Alex. garbled and sifted		26 @	30
siftings		— @	9
Tinnevelly		4 @	14
Stramonium		5½@	6
Thyme		3½@	—
Uva Ursi		3½@	4
Yerba Santa		— @	5½

Roots.

Aconite, German	₩ lb	— @	8½
Alkanet		5 @	5½
Althea, whole		8½@	9
cut		13 @	—
Angelica, German		14 @	15
American		— @	8
Arnica		12 @	14
Belladonna		7 @	8
Black Cohosh		— @	3½
Blood		7 @	8
Burdock		4½@	5
Calamus, bleached		20 @	22
unble'd, split & peeled		6½@	—
Colchicum		8 @	—
Colombo		— @	5½
Culvers		8½@	—
Dandelion, German		6 @	6¼
American cut		8 @	9
Elecampane		4½@	5
Galangal		6½@	7
Gentian		— @	5½
Ginseng, Southern		3 75 @	3 00
Northern		3 25 @	—
Northwestern		2 75 @	3 00
Ginger, Jamaica, unbleached		16 @	18
bleached		— @	18½
Golden seal		20 @	20½
Hellebore, white, powdered		6½@	6¾
whole		4¼@	4½
Ipecac, Rio		1 35 @	1 40
Jalap		11 @	13
Kava Kava		— @	10½
Lady slipper		9 @	10
Licorice, ordinary		3½@	4
selected, bdls		9 @	12
Lovage, American		30 @	32
German		10 @	12
Mandrake		— @	4¼
Orris, Florentine		17 @	20
Verona		13 @	14
fingers		75 @	1 00
Pareira brava		— @	5½
Pellitory		18 @	19
Pink		18 @	25
Rhatany		14 @	15
Rhubarb, Canton ordinary to fair		20 @	30
fair to fine		30 @	40
Shensi, fair		30 @	35
medium		35 @	40
fine		40 @	45
extra		50 @	55
clippings, good		22½@	25
Canton		25 @	27
Shensi		27½@	28
Sarsaparilla, Honduras		24½@	26
Mexican		— @	6¼
Senega, Southern		— @	28
Minnesota		21 @	21½
Manitoba		20 @	20½
Snake, Canada		13 @	15
Texas		19½@	23
Virginia		— @	30
Stillingia		4½@	5
Squills		4 @	—
Valerian, German		— @	8
Belgian		— @	5
English		— @	18
Vermont		— @	14
Yellow dock		— @	4

Seeds.

Anise, Italian, sifted	₩ lb.	— @	6
Russian		5 @	6¼
star		20 @	22
Canary, Sicily		— @	2¼
Smyrna		— @	1¾
Caraway, Dutch		5¾@	—
Cardamoms, Malabar		75 @	90
Mangalore		75 @	1 00
decorticated		80 @	85
Celery		10½@	—
Colchicum, German		9½@	10
Coriander, Natural		2 @	2¾
bleached		— @	3
Cummin		— @	8
Fennel, German		— @	6
Italian		— @	5¼
Flax	₩ bbl.	5 @	5 25
ground	₩ lb.	2½@	2¾
Fœnugreek		2¼@	2½
Guinea grains		— @	4¾
Hemp, Russian		2½@	2 3-16
Lobelia		13 @	15
Millet, domestic		— @	1¼
foreign		1¼@	—
Mustard, Cal., yellow		2¼@	2½
Trieste		— @	3½
Bart, brown		3½@	4
German, brown		1¾@	2
Bombay, brown		2½@	2¾
Poppy, blue		— @	3½
Quince, German		— @	40
Rape, English		2¾@	—
German		— @	2¼
Sunflower		1¼@	2½
Wormseed, Levant		— @	7½

Shellac.

D C	₩ lb.	29 @	30
Octagon B, and similar grades		— @	—
V. S. O.		— @	28
Triangle G		— @	27
Diamond I		— @	27
S. S.		25 @	25½
S. O. S		— @	26
T N.		23 @	24
Garnet, A. C.		22 @	—
Button		25 @	27½
Bleached		21 @	25

Spices.

Cassia, Batavia, No 1	₩ lb.	9½@	10
broken		8½@	9
Canton, matted rolls		— @	7½
broken		3½@	—
Saigon, rolls		31 @	33
broken		28 @	29
Buds		— @	18¼
Cloves, Amboyna		11 @	12
Zanzibar		— @	4½
stems		2 @	2¼
Ginger, African		4¾@	5
Calcutta		4¼@	4½
Cochin, A. B. C		8½@	9
D		6¾@	7
Mace, Banda		40 @	42
Batavia No 2		35 @	37
Penang		40 @	42
Nutmegs, 110's		36 @	37
Pepper, black, Acheen heavy		— @	4¾
Singapore		5 @	5¼
West Coast Sumatra		4¾@	5
white, Penang		— @	7
Singapore		8¾@	9
red, capsicums		5¾@	6¼
Zanzibar		10½@	11
Pimento, Jamaica, prime		5¼@	5¾
grinding		5 @	5¼

Chemicals.

Heavy Chemicals.

Alkali, 48 ₩ cent., Solvay		80 @	85
ammonia, high test		70 @	85
Bleach, over 35 ₩ cent		1 60 @	1 75
Salt cake		44 @	60
Soda ash, carb. 48 ₩ cent		1 10 @	1 20
high test		90 @	95
caustic, 48 ₩ cent		1 32 @	1 40
Newcastle, 48 ₩ cent		— @	—
high test		— @	—
Soda bicarb., English		1 50 @	1 65
American		1 50 @	3 50
crystal carbonate		1 65 @	1 75
Caustic solvay 60 ₩ cent		2 37½@	2 42½
70 " "		2¼@	2¼
74 " "		2¼@	2¾
foreign caustic, 60 ₩ cent		2 32½@	2 42½
70 " "		2¾@	2¾
74 " "		2¾@	2¾
76 " "		2⅞@	2¾
Sal, English		65 @	6½
American		65 @	85

Acids.

Acid, acetic		1 25 @	1 40
chemically pure		15 @	20
oxalic		7¾@	7¾
Pyroligneous		5 @	10
sulphuric, 60 deg		60 @	85
66 deg		70 @	95
bulk 50 deg		6 50 @	7 50
muriatic, 18 deg		65 @	75
20 deg		75 @	85
22 deg		1¾@	1¾
nitric, 36 deg		3¼@	4¼
38 deg		3¼@	4¾
40 deg		4 @	4¾
42 deg		4¼@	5¼
tartaric, crystals		32 @	32½
powdered		32½@	33¼

Miscellaneous Chemicals.

Acetate of lime, gray	lb.	1 30	@1 35
brown		80	@ 85
Alum, lump		1 65	@1 70
ground		1 75	@1 80
porous		1 50	@2 00
Argols, plates		—	@ 19
red		2½	@ 2¾
Arsenic, white		5	@ 5¼
red		6	@ 6¾
Brimstone, crude, 2ds	per ton	18 50	@19 00
3ds		18 00	@18 50
Cream tartar, crystals, p c	lb.	26	@ —
powdered, 99 p c		26	@ 26¼
Chloride of calcium		65	@ 70
Copperas		35	@ 45
Glauber salts		75	@ 85
Nitrate of lead		5½	@ 6
soda		1 77½	@ 1 87½
Chlorate of soda		11½	@ 12
Sugar of lead, brown		4¾	@ 5
white		7	@ —
Saltpeter, crude		3 25	@3 50
refined		4¾	@ 5
Sulphate alumina		1¾	@ 1¾
Vitriol blue		3½	@ 4

Ammoniates, Potashes, Etc.

Ashes, pot, 1st sorts	℔ lb	3¾	@ 4
pearl		5¾	@ 6
Potash, chlorate		8½	@ 8¾
powdered		8¾	@ 8½
carb		5½	@ 5¾
caustic		4¾	@ 5¾
dbl m'ure salt 48@53 ℔ cent.		1 03	@1 05½
dbl m'ure salt 48@53 ℔ cent. less than 25 tons		26 00	@33 00
sulph of, basis 90@98 ℔ cent.		1 99½	@2 03
90@98 ℔ cent, less than 25 tons		48 00	60@ 00
Kainit, 23 ℔ cent. S. of P. ℔ ton		8 80	@9 30
less than 25 tons		17 00	@18 75
Sylvinit, 35@37 ℔ ct S F. P. ℔ unit		2 07	@2 12½
Aqua am'ia (in cbys) 16 ℔ ct. ℔ lb		3¾	@ 4
18 deg		4	@ 5
20 deg		5¼	@ 5¾
26 deg		6¼	@ 6 ¾
Ammoniac, sal, grey		5¾	@ 6
granulated		6¼	@ 6½
lump		8¾	@ 9
Ammonia, sulphate		2 20	@2 30
Potash muriate, ℔ 100 lbs		1 78	@1 84½
less than 25 tons		41 00	@52 00

Ammoniates, Etc.:

Blood, dried, red, per unit, high		1 70	@ 1 75
low grade, per unit		1 62½	@ 1 65
Concentrated tankage per unit		2 05	@ 2 10
Bones, rough, per ton		19 00	@20 00
ground, per ton		22 50	@23 00
Bone meal		19 00	@24 00
Bone black, refuse		18 00	@18 50
Fish guano, dried		18 50	@19 00
acidulated		11 00	@ —
Phosphate rock, f. o. b. Char'n		3 45	@ 3 50
f. o. b. Peace River		3 00	@ 3 50
Land Pebble 70 per cent		4 00	@ 4 25
Acid, phosphate, 15@80 per cent		54	@ 55

Dyestuffs.

Acid, picric, best crystals	℔ lb.	24	@ 26
tannic		37	@ 40
Aceta te of soda		3½	@ 3¾
Albumen, prime egg		50	@ 60
blood		29	@ 33
Annatto		10	@ 25
seed		6	@ 7
Antimony, oximuriate		4	@ 6
salt		20	@ 35
tartar emetic		24	@ 30
Barbary root, cut		3½	@ 4
Bichromate of potash, Scotch		10½	@ 10¾
American		10	@ 10½
Bichromate of soda		8½	@ 9
Carmine of indigo		1 75	@ 2 25
Cochineal, Teneriffe silver		28	@ 32
black		31	@ 33
gray black		32	@ 34
Cudbear, French		12	@ 18
concentrated		23	@ 25
English		10	@ 18
Cutch, box		5½	@ 8
bales		4½	@ 5
Dextrine, imported		4½	@ 5¼
domestic		3½	@ 3¾
Divi Divi	℔ ton	32 00	@35 00
Flavine	℔ lb	16	@ 25
Fustic stick	℔ ton	12 00	@22 00
Gambier	℔ lb	3 65	@ 3 80
Garancine		6	@ 8
Hyposulphite of Soda		1 60	@ 1 80
Indigo, Bengal, low grade		75	@ 1 25
medium		85	@ 1 00
high grade		1 10	@ 1 30
Kurpahs		90	@ 1 25
Guatemalas		75	@ 1 15
Manila		45	@ 55
Madras		35	@ 40
Indigotine		95	@ 1 80
Logwood stick	℔ ton.	18 00	@25 00
Madder, Dutch	℔ lb.	8	@ 10
French		7	@ 9
Myrabolans		1¾	@ 2½
Muriate of tin		11	@ 13
Nitrate of iron, commercial		1	@ 1½
true		3½	@ 4½
Nutgalls blue Alleppo		12	@ 12½
Chinese		14	@ 15
Persian berries		7	@ 8
Prussiate of potash, Am. yel		16	@ 17
red		36	@ 38
Scotch yel		18	@ 20
red		—	@ —
Ger. yel		16	@ 17
red		36	@ 38
Prussiate of soda		15½	@ 16
Phosphate of soda		4½	@ 5
Quercitron	℔ ton.	20 00	@25 00
Sago flour		1 65	@ 1 75
Salts of tartar		4½	@ 6¼
Soluble oil		6	@ 7½
Sumac, Sicily prime	℔ ton.	46 00	@48 00
Virginia		37 00	@40 00
Starch corn	℔ lb.	2	@ 3
potato		2½	@ 3¼
wheat		4½	@ 5¼
Stannate of soda, 50 soluble		8	@ 12
40. soluble		6	@ 10
25. soluble		5	@ 8
Tin crystals		10	@ 10¼
Turmeric root, Coringa		3¼	@ 3½
Bengal		2½	@ 2½
Vanadiate ammonium	℔ oz.	58	@ 60

Coal Tar Colors

Alizarine		16	@ 20
Aniline oil		15	@ 15½
salt, crystals		14½	@ 15
Bismarck brown		45	@ 1 00
Eosine		1 00	@ 2 50
Fast red		35	@ 55
Fast yellow—acid		65	@ 1 50
Fuchsine crystals		75	@ 1 60
Methylene blues		1 50	@ 2 50
Nicholson (alkali) blue, 3B		2 10	@ 3 00
5B		3 75	@ 4 00
red shade		2 00	@ 2 25
Nigrosine		80	@ 1 25
Orange		25	@ 90
Safranine		1 00	@ 2 00
Scarlet R		28	@ 75
RR		30	@ 75
RRR		35	@ 75
Soluble blue—green shade		2 25	@ 3 50
Violet—2R		1 25	@ 2 00
2B		1 00	@ 1 25
3B		1 00	@ 1 50

Chipped Dyewoods, Etc:

Barwood	℔ lb.	2	@ 2¼
Camwood		6	@ 8
Fustic, Jamaica		1¼	@ 1½
Cuban		1½	@ 1¾
Green ebony		3	@ 3½
Hypernic		3½	@ 4¼
Logwood, Campeachy		1½	@ 2
Nicwood		2	@ 2½
Peachwood		3¼	@ 3½
Redwood		2¾	@ 3
Red sanders		2¾	@ 3

Extracts

Archil	℔ lb	12	@ 14
concentrated		18	@ 20
Barberry, French		25	@ 30
Chestnut		3½	@ 4½
oak		2¾	@ 3¼
hemlock		3½	@ 4½
Fustic, solid		8½	@ 10
liquid, 51 deg		6	@ 10
Gall		15	@ 18
Indigo extract		7½	@ 10
Logwood, solid		6½	@ 12
liquid, 51 deg		5½	@ 10
42 deg		4	@ 7
Sumac		3½	@ 5

Comparative Prices.

On July. 5, in 1893, 1894 and 1895.

	1895	1894	1893
Chemicals.			
Bleaching powder	1 85	1 75	2 25
Brimstone, 3ds	@15 00	@15 25	@18 25
Caustic soda, 70 p. c.	1 95	2 50	2 70
Caustic soda, 60 p. c.	2 25	2 80	2 95
Sal soda, Am.	65	85	1 05
Soda ash, 48 p. c. carb	95	1 25	1 25
Soda ash, 48 p. c. caustic	1 10	1 25	1 75
Soda ash, 48-53 p. c. N. C.	—	—	—
Soda alkali, 48 p. c. B. M.	92½	1 05	1 20
Soda nitrate	1 70	2 20	1 70
Cream tartar, crystals	19¼	17	19½
Muriate of potash	1 78	1 80	1 78
Chlorate of potash	9¾	13¼	15½
Kainit	8 55	9 00	8 50
Paints			
White lead in oil	5½	5½	6¼
Litharge, Am. pow'd	4¾	5¼	6½
Paris green	21½	20	10
Orange mineral	6¾	7½	8½
Ven. red, English	1 75	1 25	1 25
Ven. red, American	65	70	70
Barytes	$14 00	$20 00	$20 00
Whiting, commercial	30	35	40
Drugs			
Opium	1 65	2 00	2 40
Morphine, domestic	1 85	1 65	2 00
Quinine, makers	25	—	—
Quinine, dealers	24¾	—	—
Alcohol	2 35	2 28	2 18
Borax, city	5½	8	8¾
Beans, tonka, (Ang)	1 85	2 00	1 75
Cubeb, XX	10	14	25
Cuttlefish	8¼	8	11½
Glycerine, American	11	11½	20
Oil, castor, city	10	14½	14¼
Oil, cod liver, Nor	$44 00	$25 00	$19 00
Oil, cassia	1 15	82½	80
Oil, peppermint, tins	1 70	2 35	2 40
Oil, sassafras	32	35	39
Quicksilver	54	49	58½
Asafœtida	15	14	12
Gum arabic, sorts	14¼	11	16
Camphor, bbls	53	38	50
Shellac, D. C.	32	33	31
Senna, Alex. Nat'l	16	12	14
Senega root	40	40	60
Ipecac	1 32	1 05	1 35
Jalap	16	19	22
Canary seed, Smyrna	2¾	3⅞	3
Caraway seed, Dutch	6¼	6	6
Mustard seed, Cal. yel	2¾	3⅞	5½
Rapeseed, German	2¾	2¾	3¼
Oils			
Cottonseed, prime, S. Y.	26	33	42
Olive Sicily	54	55	55
Cocoanut, Ceylon	5½	5½	5¾
Lard, prime city	51	54	73
Linseed, domestic	59	54	50
Menhaden, prime crude	23	21	37
Whale, bleached winter	40	44	51
Sperm, bleached winter	57	70	97
Oil cake, western	—	23 50	27 25
Spirits turpentine	28¾	30	28¾
Dyestuffs			
Bichromate, potash Am.	8¾	10	10½
Cochineal, Teneriffe S.	28	24	24
Cutch, bag	4¾	4½	4½
Gambier	5¾	3⅞	4¼
Indigo, Bengal, h gr'de	1 15	1 25	1 75
Prussiate potash, yel	18	21½	22
Sumac, Sicily, prime	$55 00	$65 00	$72 50
Starch, corn	2¾	1 1-8	2¼

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10 cks, Roessler & H Chem Co, Kensington, Antwerp
10 cs, Schieffelin & Co, Kensington, Antwerp
ACETIC—200 demj, McKesson & R, Prussia, Hamburg
BENZOIC—13 bbls, McKesson & R, Prussia, Hamburg
OLEIC—2 cks, Jno Clay, Mobile, London
OXALIC—15 cks, A Klipstein & Co, Wells City Bristol
35 cks, J L & D S Riker, Wells City, Bristol
PHOSPHORIC—30 cs, Schoelkopf, H & M, Ontario, London
PICRIC—5 cks, Reed, Holliday & Sons, Tauric, L'pool
9 cks, Schoelkopf, H & M, Martello, Hull
SAL—22 cs, Schoelkopf, H & M, Patria, Hamburg
50 cs, Boehringer & S, Dresden, Bremen
ALIZARINE—73 cks, V Koechl & Co, Amsterdam, R'dam
105 cks, Pickhardt & K, Amsterdam, R'dam
50 cks, Pickhardt & K, Kensington, Antwerp
25 cks, V Koechl & Co, Veendam, R'dam
ASS'T—5 cks, C A Johnson & Co, Tauric, L'pool
ASPHALT—370 bgs, V S Allen, Hesperides, Barbadoes
BALSAM PERU—2 cs, Schoelkopf, H & M, Patria, Hamburg
COP—30 cs, Schoelkopf, H & M, Patria, Hbg
8 cs, Cardenas & Coe, Castle Eden, C Bolivar
4 cs, Thebaud Bros, Castle Eden, C Bolivar
9 cs, Kunhardt & Co, Alene, U S Columbia
12 bbls, Dodge & O, Ontario, London
BARYTES—130 cks, Gabriel & Schall, Dresden, Bremen
CARB—100 bgs, Roessler & H Chem Co, Kensington, Antwerp
BARYTA-NITRATE—20 kgs and 3 cks, Rogers & P, Veendam, Rotterdam
BARIUM CHLOR—23 cks, Pickhardt & K, Amsterdam, Rotterdam
BARK—12 bls, Jno Clay, Caracas, La Guayra
2 bls, Thebaud Bros, Castle Eden, C Bolivar
12 bls, Cohen & Co, Santiago, Nassau
3 bls, Jno Clay, St Paul, Southampton
BEANS, VANILLA—3 cs, French & Am Trad Co, St Louis, Southampton
7 cs, H Marquardt & Co, Yucatan, Tuxpam
3 cs, P Harmony's Nephew & Co, Yucatan, Tuxpam
TONCA—7 cks, Cardenas & Co, Castle Eden, C Bolivar
1 bbl, Thebaud Bros, Castle Eden, C Bolivar
19 cks and 100 pkgs, 91,571 lbs, Flint, Eddy & Co, Castle Eden, Trinidad
BERLIN BLUE—14 cks, Pickhardt & K, Kensington, Antwerp
BLEACH—22 bxs, Troy Laundry & Mach Co, Tauric, Liverpool
71 cks, Reed, Holliday & Sons, Tauric, Liverpool
10 cs, Schering & Glatz, Aller, Bremen
25 cks, Roessler & H Chem Co, Amsterdam, R'dam
14 cks, V Koechl & Co, Veendam, R'dam
3 cs, Fritzsche Bros, Prussia, H'b'g
SALT—5 cks, Roessler & H Chem Co, Patria, H'b'g
11 cs, Schieffelin & Co, Kensington, Ant
59 cks, Pickhardt & K, Kensington, Ant
1 cs, Schieffelin & Co, Prussia, H'b'g
5 cks, Lehn & Fink, Prussia, H'b'g
26 cks, Roessler & H Chem Co, Sorrento, H'b'g
CHINA CLAY—100 cks, Dunn Bros, Tauric, L'pool
250 tons, 13 cwt, J Brand, Michigan, London.
340 cks, L A Salomon & Bro, Michigan, London
100 cks, J Lee Smith & Co, Michigan, London
120 cks, Moore & Munger, Michigan, London
CHROME GREEN—10 cks, C F Zentgraf, A'dam, R'dam
COLORS—7 cks, A Keppelmann & Co, La Bourgogne, Havre
YELLOW—15 cks, Pickhardt & K, Amsterdam, R'dam
CIVET—1 cs, Dodge & O, Ontario, London
CLIFFSTONE—320 tons, Sanderson & Son, Francisco, Hull
1,491 tons, M Rittenau, Alice A Leigh, Hull
CLOVES—54 bags, Mississippi, London
COAL TAR PREP—9 cks & 5 cs, V Koechl & Co, A'dam, R'dam
4 cks, Roessler & H Chem Co, Patria, H'b'g
16 cs, Merck & Co, A'dam, R'dam
5 cks, Pickhardt & K, Amsterdam, R'dam
2 cks, Heller & M Co, Amsterdam, R'dam
11 cks, V Koechl & Co, Veendam, R'dam
18 cks, W J Matheson & Co, Veendam, R'dam
CREOSOTE—500 cks, N Y Coal Tar Chem Co, Michigan, London
29 cs, S Levy, Vasco, London
CABALT OXIDE—2 cs, Roessler & H Chem Co, Kensington, Ant
3 cs, Hammill & G, Wells City, Swansea
COCA LEAVES—80 bls, C W Jacobs & Co, Advance, Colon
24 bls, Schieffelin & Co, Advance, Colon
45 bls, W R Grace & Co, Coya, Valparaiso
COLCOTHAR—14 bbls, Hemmingway & Co, Ontario, London
COLORS—28 cks, R F Downing & Co, Umbria, L'pool
3 cs & 2 cks, J M Huber, Prussia, H'b'g
46 cks, Gabriel & Schall, Dresden, Bremen
2 cs, G H Morrill & Co, Aller, Bremen
7 cs, J A Munkett, St Paul, S'h'ton
6 cks & 3 cs, Berger & Wirth, Prussia, H'b'g
300 bgs, L A Salomon & Bro, Mohawk, London
360 bgs, Hammill & G, Ontario, London
FUSTIC—440,000 lbs, J W Wilson & Co, Yumuri, Tampico
GELATINE—5 bls & 20 cs, P Puttnam, Amsterdam, Rotterdam
50 cs, H Kohnstamm, Veendam, R'dam
25 cs, McKesson & R, Prussia, Hamburg
GINGER—1 bg, Macy & Dunham, Alps, Kingston
189 bbls, Lascelles & Co, Alps, Kingston
17 bbls, Park, Melbourne & Co, Alps, Kingston
285 Bgs, G B Morewood & Co, St Paul, Southampton
GLASS, CYL—37 cs, O G Hempstead & Co, Amsterdam, Rotterdam
11 cs, Van Horne, G & Co, Amsterdam, Rotterdam
MIRROR—4 cs, P Wiederer, Dresden, Bremen
106 cs, German L G P Co, Amsterdam, Rotterdam
59 cs, T W Morris & Co, Amsterdam, R'dam
1 cs, Zahn & B, Veendam, Rotterdam
102 cs, Ger L G P Co, Veendam, R'dam
1 cs, Dresden, Bremen
PLATE—29 cs, H H Cahn, Kensington, Ant
1 cs, Holbrook & Bros, Br Queen, Ant
4 cs, H H Cahn, Michigan, London
WINDOW—37 cs & 17 bxs, Heroy & Marrener, Tauric, Liverpool
160 bxs, Dougherty & M, Tauric, Liverpool
3,678 bxs, Heroy & M, Br Queen, Antwerp
1,014 cs, Heroy & Marrener, Kensington, Ant
GLUE—63 cks, A Hodge & Co, Martello, Hull
4 cks, A Hodge & Co, Francisco, Hull
50 bgs, S Isaacs & Co, Menemsha, R'dam
10 cks, A K Gardiner & Bro, Wells City, Bristol
50 bgs, A E Reiman, Wells City, Bristol
13 bls, 8 cs, T M Dusche, St Paul, S'h'ton
MARINE—13 cks, 32 bxs, A Jeffrey & Co, Manitoba, London
POWDER—20 bgs, J W Binney, Venedia, Stettin
GLYCERINE—245 dms, 170,766 lbs, Marx & Rawolle, Neustria, Marseilles
130 dms, 144,927 lbs, Marx & Rawolle, Michigan, London
113 dms, 128,839 lbs, Marx & Rawolle, Ontario, London
18 dms, 20,379 lbs, Marx & Rawolle, Wells City, Bristol
10 dms, 10,873 lbs, Marx & Rawolle, Michigan, London
32 dms, 34,987 lbs, M Leibmann & Co, Werra, Genoa
20 dms, 21,746 lbs, Marx & B, Ontario, London
GREASE, WOOL—100 bbls, Welles & Welles, Umbria, L'pool
650 cks, F Salomon & Co, L Ross, H'burg

Cream of Tartar Tartaric Acid
GUARANTEED 99—100 Per Cent. PURE.
TARTAR CHEMICAL COMPANY, 47 Cedar St. N. Y

AMMONIA, BICH—3 kgs, Dillon & Co, Mohawk, London
MURI—28 cks, A Klipstein & Co, Kensington, Antwerp
SAL—20 cks, Roessler & H Chem Co, Patria, Hamburg
ANILINE COLOR—112 cks, V Koechl & Co, Amsterdam, R'dam
2 cks, A Klipstein & Co, Tauric, L'pool
6 pkgs, Oakes Mfg Co, Tauric, L'pool
7 cks, Geisenheimer & Co, Aller, Bremen
38 cks, Geisenheimer & Co, Dresden, Bremen
4 cks, C Bischoff & Co, Dresden, Bremen
16 pkgs, C Georgi, A'dam, R'dam
4 cks, J Campbell & Co, A'dam, R'dam
30 cs, 19 cks, Pickhardt & K, A'dam, R'dam
10 cs, Substantive Colors Co, Kensington, Antwerp
6 pkgs, C Bischoff & Co, Kensington, Antwerp
7 cks, V Koechl & Co, Kensington, Antwerp
36 cks, 2 cs, A Klipstein & Co, Kensington, Antwerp
12 cks, 12 cs, Pickhardt & K, Kensington, Antwerp
32 cks, Reed, Holliday & Sons, Tauric, L'pool
81 cks, V Koechl & Co, Veendam, R'dam
14 cks, V Koechl & Co, Prussia, Hamburg
OIL—5 dms, A Klipstein & Co, Martello, Hull
SALT—43 cks, Pickhardt & K, Amsterdam, R'dam
20 cks, 10 cs, V Koechl & Co, Kensington, Antwerp
36 cks, Pickhardt & K, Kensington, Antwerp
128 cks, Geisenheimer & Co, Veendam, Rotterdam
ANNATTO—1 bg, Macy & Dunham, Alps, Kingston
6 bbls, A S Lascelles & Co, Alps, Kingston
1 bg, Park, Melbourne & Co, Alps, Kingston
EXT—2 bbls, Merchants' D T Co, Norge, Christiania
ANTIMONY REG—34 cks, Hendricks Bros, Mohawk, London
2 cs, Dillon & Co, Mohawk, London
13 cks, A Klipstein & Co, Panama, B'd'x
ARNICA FLOWERS—16 bls, J L Hopkins & Co, Ludgate Hill, London
AROMATIC SEED—5 bgs, Lehn & Fink, St Paul, Southampton
ARCHIL—10 cks, Pickhardt & K, Mohawk, London
10 cks, W A Ross & Bro, Lucania, L'pool
10 bbls, J Campbell & Co, Kensington, Antwerp
ARGOLS—358 bgs, C Pfizer & Co, Ohio, Palermo
54 cks, N Y Tartar Co, Panama, B'deaux
229 cks, 55 bgs, Tartar Chem Co, Patria, Marseilles
564 bgs, Tartar Chem Co, Elysia, Leghorn
ARSENIC—126 cks, V Koechl & Co, Kensington, Antwerp
44 cks, Wing & Evans, Brooklyn City, Bristol
BONES—175 bgs, D A De Lima & Co, Prins Wm I, Curacoa
BRIMSTONE—1,515 tons, J Munroe & Co, Pocahontas, Girgenti
BRISTLES—5 cs, C Cohn, Michigan, London
11 cks, Lewiston Imp & Trad Co, Aller, Bremen
2 cks, Polock & G, St Paul, Southampton
9 cks, H Kroehl, Prussia, Hamburg
BRONZE POWDER—1 cs, Solomon & S, Aller, Bremen
11 cs, Gerstendorfer Bros, Dresden, Bremen
8 cs, T Reissner, Dresden, Bremen
9 cs, Baer Bros, Aller, Bremen
BUTTON LAC—48 cs, Harrison Bros & Co, St Louis, Southampton
CALOMEL—40 cs, Schoelkopf, H & M, Mohawk, London
CAMPHOR, CRUDE—57 cs, Arlington Mfg Co, Overland, Japan
CANARY SEED—740 bgs, C Rosenstein & Co, Etona, Buenos Ayres
3,815 bgs, G W Sheldon & Co, Etona, Buenos Ayres
451 bgs, Doherr, G & Co, Etona, Buenos Ayres
CAPSICUM—260 bgs, J Kissock & Co, Tauric, Liverpool
CARDAMOM SEED—3 cs, Dodge & O, Ontario, London
14 cs, J F Leggett & Co, Mohawk, London
3 cs, Jno Clay, St Paul, Southampton
CARAWAY SEED—100 bgs, Rosenstein Bros, Edam, Amsterdam
CASSIA—235 bls, F H Leggett & Co, Menemsha, Rotterdam
CASTOR SEED—525 bgs, Ralli Bros, Mohawk, London
CHALK—10 cs, W Zinsser & Co, Amsterdam, R'dam
300 tons, J Brand, Michigan, London
PREC'P—20 cks, R Hillier's Sons & Co, St Louis, S'h'ton
CHAMOIS—7 cs, T L Lutkins, Umbria, L'pool
CHAMOMILES—2 cs, J Personini, Werra Genoa
10 cs, R Hillier's Sons & Co, Prussia, H'b'g
CHEMICALS—29 cs, Schieffelin & Co, Friesland, Ant
36 pkgs, Merck & Co, A'dam, R'dam
8 pkgs, McKesson & R, Prussia, H'b'g
COMP—1 cs, Dodge & O, La Bretagne, Havre
10 pkgs, Merck & Co, A'dam, R'dam
4 cs, Lehn & Fink, St Paul, S'h'ton
5 cs, Lehn & Fink, Prussia, H'b'g
PREP—25 cks & 2 cs, Roessler & H Chem Co, Patria, H'b'g
56 cks, Roessler & H Chem Co, Amsterdam, R'dam
59 cks, Roessler & H Chem Co, Kensing, Ant
1 ck, Lehn & Fink, Prussia, H'b'g
PAINTERS'—10 cs, Pickhardt & K, A'dam, R'dam
2 cs & 3 bbls, A Keppelmann, La Bourgogne, Havre
CORIANDER SEED—65 bgs, F G Strohmeyer & H Arpe, Patria, Hamburg
CORKS—4 bls, W G Moehring & Co, Panama, Bordeaux
31 bls, Gudewell & B, Cuñc, Liverpool
5 bls, A Cambuston, Panama, Bordeaux
CORKWOOD—1,630 bun, Armstrong Cork Co, Peninsular, Lisbon
CUTCH—450 bxs, L C King & Co, Lucania, Liverpool
DEGRAS—11 bbls, A Weil & Bro, Amsterdam Rotterdam
2 cks, Gretch & B, Norge, Copenhagen
DISINFECTANT—50 cks, R C Woodcock, Mohawk, London
DIVI DIVI—117 bgs, Middleton & Co, Castle Eden, Trinidad
210 bgs, D A De Lima & Co, Prins Wm I, Curacoa
DUTCH METAL—7 cs, I Vought & Co, Dresden, Bremen
CLIPPINGS—25 cs, R F Downing & Co, Dresden, Bremen
DYEWOOD EXT—4 kgs, J J Keller & Co, Kensington, Ant
45 cs, B P Ducas & Co, Sorrento, Havre
ETHER—2 cs, T Leeming & Co, Ontario, London
FLOWERS—6 bls, Jno Clay, Tauric, L'pool
5 cks, Max Zeller, Francisco, Hull
FRANKFORT BLACK—6 cks, C Wix & Co, Amsterdam, Rotterdam
FULLER'S EARTH—274 bgs, T S Todd & Co, Mohawk, London
GUM—15 cs, F Scheubel & Co, Kensington, Ant
1 cs, R F Downing & Co, A'dam, R'dam
ALOES—63 bxs, Suzarte & Whitney, Caracas, La Guayra
60 cs, Foulke & Co, Caracas, La Guayra
15 cs, Stallman & F, St Paul, S'h'ton
BENZOIN—5 cs, J Clay, St Paul, S'h'ton
CHICLE—15 bgs, H Marquardt & Co, Yucatan, Vera Cruz
32 bls, F Probst & Co, Yucatan, Laguna
7 bgs, J W Wilson & Co, Yucatan, Vera Cruz
298 bgs, Flint, Eddy & Co, Yucatan, Vera Cruz
20 bgs, E N Tibbals, Yucatan, Vera Cruz
COPAL—35 bskts, W H Scheel, E'dam, R'dam
DAMAR—100 cs, Paterson, B & Co, Michigan, London
100 cs, D A Shaw & Co, Michigan, London
GUAIAC—13 cs, A Behrens & Co, Prins Wm I, Port-au-Prince
KAURI—35 cs, A Mason, Mohawk, London
171 pkgs, A Mason, St Paul, S'h'ton
LAC—88 cs, Berry Bros, Mohawk, London
TRAG—24 cs, Thurston & B, St Paul, S'h'ton
HEMPSEED—3 bgs, B Ruhe, Aller, Bremen
HERBS—25 bls, Jno Clay, Martello, Hull
2 bls, Bichels & Techow, Pawnee, Trieste
IPECAC—3 bls, Dodge & O, Ontario, London
IODINE—68 bbls, Watjen, Toel & Co, Allianca, Colon
101 bls, Watjen, Toel & Co, Advance, Colon
INDIGO—19 cs, F H Leggett & Co, Mohawk, London
29 cs, D R James & Bro, St Paul, S'h'ton
EXT—10 cks, Pickhardt & K, Mohawk, London

POTASH
CYANIDE
PRUSSIATE
CHLORATE
CARBONATE
CAUSTIC and
All Heavy and Fine Chemicals
Soda Ash
Soda Prussiate
Sal Soda
Caustic Soda
Etc.
ACID
Acetic
Phosphoric
Carbolic
Etc.
Extracts
Gums
PRECIP. CHALK
IMPORTERS—Commission Merchants—EXPORTERS.
FUERST BROS. & CO.
2 Stone St., NEW YORK, & 17 Bridge St.
Bleaching Powders
MINERALS
Fluorspar
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China Clay
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OILS
CASTOR
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COCOANUT
ESSENTIAL.
CORRESPONDENCE SOLICITED.

SCHERING'S
Diphtheria Antitoxin
Benzonaphthol
Diabetin
Rubidium Iodide
Strontium Salts
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Salol
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SCHERING & GLATZ
No. 55 Maiden Lane,
NEW YORK
Sole Agents for the United States

Apolysin
Creosote Carbonate (Creosotal)
Cuaiacol Carbonate
Betanaphthol-Bismuth
Phenol-Bismuth
Tribromphenol-Bismuth
Oleocreosote
VON HEYDEN'S

INDIGOTINE—1 ck, Reed, Holliday & Sons, Tauric, L'pool
IRON OXIDE—20 cks, G A & E Meyer, Martello, Hull
13 bbls & 15 kgs, Hemingway & Co, Ontario, London
10 cks, D F Tiemann & Co, Francisco, Hull
INSECT POWDER—50 bbls, M Leibmann & Co, Picqua, Trieste
FLOWERS—20 bls, Jno Clay, Pawnee, Trieste
8 bls, Thurston & B, Pawnee, Trieste
10 bls, Schieffelin & Co, Pawnee, Trieste
JUNIPER BERRIES—50 bgs, Peek & V, Caledonia, Leghorn
KOLA NUTS—22 bskts, A S Lascelles & Co, Alps, Kingston
4 cks, Gillespie Bros & Co, Alps, Kingston
LACTUCARIUM—1 cs, McKesson & R, Prussia, H'burg
LAKE, SCARLET—2 cks, R F Downing & Co, Mohawk, London
LEAVES—20 bls, R Hilleirs' Son & Co, Sorrento, H'burg
75 bls, G W Sheldon & Co, Pawnee, Trieste
LEECHES—5 cs, F Paturel & Co, La Bourgogne, Havre
LICORICE—212 lbs, Volkmann, Stolwerk & Co, Veendam, R'dam
ROOT—111 bls, Stamford Mfg Co, Mohawk, London
77 bgs, E Utard, Panama, B'd'x
LIME, SANTONATE—2 cks, Schoelkopf, H & M, Patria, H'b'g
HYPO—8 cs, Schoelkopf, H & M, Ontario, London
LINSEED—1,365 bgs, 4,033 bu, Dean L O Co, Mohawk, London
LITHARGE—20 cks, Roessler & H Chem Co, Kensington, Ant
LITHOPONE—82 cks, Gabriel & Schall, Dresden, Bremen
LOGWOOD—400,000 lbs. H Kainer & Co, Schleswig, Miragoane
11¾ tons, H Kainer & Co, Schleswig, Miragoane
EXT—5 cks, C Bischoff & Co, Dresden, Bremen
LONDON PURPLE—100 kgs, 24 bbls & 300 dms, Hemingway & Co, Ontario, London
LYCOPODIUM—2 cs, Dillon & Co, Mohawk, London
20 cs, Jno Clay, Sorrento, H'b'g
18 cs, McKesson & R, Prussia, H'b'g
MAGNESIA, CIT—12 cs, J Personini, Werra Genoa
MAGNESIUM—1 cs, Dillon & Co, Mohawk, London
MAJORAM—9 bls, Jno Clay, Tauric, L'pool
MANGANESE, OXIDE—26 cks, Roessler & H Chem Co, L Ross, H'b'g
MEDICAL PREP—3 cs, Boehringer & S, Spree, Bremen
3 cs, Stallman & F, Kensington, Ant
2 cs, Boehringer & S, A'dam, R'dam
10 cs, Schieffelin & Co, Kensington, Ant
4 cs, Lehn & Fink, Prussia, H'b'g
MILK, SUGAR—1 cs, Standard Homeo Glob Mfty, Kensington, Ant
MICA—2 cs, Foster, Brown & Co, Umbria, L'pool
11 cs, E Munsell & Co, Ontario, London
22 cs, A O Schoonmaker, St Paul, S'h'ton
MINERAL RED—8 bbls, W A Brown & Co, Majestic, L'pool
MILLET SEED—2 bgs, W Bartels, Aller, Bremen
MUSK—1 bx, Geo Lueders & Co, Overland, Shanghai
1 bx, Lazell, D & Co, Overland, Shanghai
NAPHTHALINE—65 bgs, White Tar Co, Kensington, Ant
NUTMEGS—6 cs, Fischer & Co, Amsterdam, R'dam
30 cs, D R James & Bro, Amsterdam, R'dam
48 cs, F H Leggett & Co, Amsterdam, R'dam
6 bbls, Frame, A & Co, Grenada, Trinidad
OCHRE—10 cks, J W Coulston & Co, Panama, B'd'x
OIL, ALMOND—2 cs, Pickhardt & K, Amsterdam, R'dam
4 cs, Fritzsche Bros, Prussia, H'b'g
BALSAM—1 cs, Fritzsche Bros, Prussia, H'b'g
BERGAMOT—10 qr cs, H B Sheldon, Jr, Ohio, Messina
8 cs, McKesson & R, Pawnee, Messina
CASSIA—3 cs, Fritzsche Bros, Prussia, H'b'g
4 bxs, China & Japan Trad Co, overland
COCOANUT—55 pps, Hopkins & H, Glenartney, Cochin
COD LIVER—100 bbls, Lehn & Fink, Francisco, Hull
25 bbls, Schoelkopf, H & M, Menemsha, R'dam
25 bbls, Schieffelin & Co, Menemsha, R'dam
ESS'L—5 pots, 1,224 lbs, Geo Lueders & Co, Cufic, L'pool
1 cs, W P Ungerer, Werra, Genoa
EUCALYPTUS—3 cs, Jno Clay, Mobile, London
FENNEL—1 cs, Fritzsche Bros, Prussia, Hbg
LAVENDER—3 cs, Dodge & O, Neustria, Marseilles
LEMON—10 qr and 35 oct cs, Hickock & J, Ohio, Messina
25 qr cs, Tyler & Finch, Ohio, Messina
5 qr cs, H B Sheldon, Jr., Ohio, Messina
13 cs, McKesson & R, Pawnee, Messina
LINSEED—2 bxs, China & Japan Trad Co, Overland
OLIVE—1 bbl, F Petroline, Pisqua, Messina
4 bbls, V Ditmari, Neustria, Naples
2 cks, Werra, Genoa
2 cks, G Riccardi, Neustria, Naples
4 cks, Ohio, Messina
1 bbl, G W Sheldon & Co, Patria, Marseilles
30 bbls, Societe Hyg Ali, Fulda, Genoa
ORANGE—30 qr cs, H B Sheldon, Jr, Ohio, Messina
PALM—5 cks, United Oil Co, Cevic, L'pool
PETTITGRAIN—1 cs, Dodge & O, Neustria, Marseilles
PIMENTO—2 cs, J B Horner, Jr, Ontario, London
ROSE—1 cs, French & Am Trad Co, La Bretagne, Havre
ROSEMARY—13 cs, C Rockhill, Werra, Genoa
SAVIN—1 cs, Fritzsche Bros, Prussia, Hbg
SESAME—4 cks, H Warrick, Neustria, Marseilles
28 cks, Lazard Freres, Kaiser Wm II, Genoa
SOD—57 bbls, Welles & Welles, Umbria, Liverpool
SULPHUR—50 bbls, W R Peters & Co, Neustria, Naples
100 bbls, W R Peters & Co, Pawnee, Messina
WOOD—6 cs, America, London
OPIUM—10 cs, 1,862 lbs, Dodge & O, Francisco, Hull
13 cs, Schieffelin & Co, Lucania, Liverpool
ORRIS ROOT—6 bls, Weaver & Sterry, Ltd., Caledonia, Leghorn
1 cs, McKesson & R, Prussia, Hamburg
PAINT—14 dms, Perry, Ryer & Co, Anchoria, Glasgow
36 dms, M Mitchelson, Mohawk, London
10 dms, F W Churchill, Furnessia, Glasgow
PALM STEARINE—48 bbls, Standard Paint Co, Neustria, Marseilles
155 bbls, Standard Paint Co, L Ross, Hbg
PARAFFINUM—50 bls, W Ropes & Co, Francisco, Hull
PATENT DRYERS—3 bbls, Hemingway & Co, Ontario, London
PARIS GREEN—2 cs, Dillon & Co, Mohawk, London
PEPPER—24 bgs, F H Leggett & Bro, A'dam, Rotterdam
PHOSPHATE—2,000 bgs, Heller, Hirsch & Co, Kensington, Antwerp
PIMENTO—48 bgs, C Wessels & Co, Alps, Kingston
4 bgs, Macy & Dunham, Alps, Kingston
3 bgs, Park, Melbourne & Co, Alps, Kingston
38 bgs, A S Lascelles & Co, Alps, Kingston
PITCH, BURGUNDY—100 tubs, Tyler Finch, A'dam, R'dam
200 tubs, Schieffelin & Co, A'dam, R'dam
COAL TAR—250 cks, N Y Coal Tar Chem Co, Michigan, London
500 bbls, Schoelkopf, H & M, Mohawk, London
821 bgs, Mica Roofing Co, St of Nebraska, Glasgow
1,000 bgs, W H Rankin, Anchoria, Glasgow
770 bgs, W H Rankin, City of Rome, Glasgow
POMADES—20 cs, Dodge & O, Neustria, Marseilles
POTASH—32 cks, A Klipstein & Co, Kensington, Ant
CARB—15 cks, Roessler & H Chem Co, Patria, H'b'g
46 cks, A Klipstein & Co, Kensington, Ant
29 cks, J Lee & Co, Sorrento, H'b'g
CAUSTIC—20 bxs, Troy L & M Co, Tauric, L'pool
50 cyl, Edw Hill's Son & Co, Kensington, Ant
CHLOR—100 kgs, Schoelkopf, H & M, Tauric, L'pool
50 cks, Pickhardt & K, Kensington, Ant
CYANIDE—50 cs, Schoelkopf, H & M, Monawk, London
MURI—1,000 bgs, P Weidinger, Prussia, H'b'g
1,000 bgs, Battelle & R, Prussia, H'b'g
PERMANGANATE—20 cks, Roessler & H Chem Co, Patria, H'b'g
SULPH—450 bgs, Pickhardt & K, Amsterdam, R'dam
POTATO STARCH—500 bgs, G Offelsmeyer, Francisco, Hull
PUMICE—22 cks, A E Cerqua, Pocahontas, Messina
QUELRACHO, EXT—200 cs, Doheer, G & Co, Etona, Buenos Ayres
QUININE—10 cs, 10,000 ozs, Boehringer & S, A'dam, R'dam
19 cs, 2,300 ozs, Boehringer & S, Veendam, R'dam
21 cs, 10,500 ozs, Schieffelin & Co, Dresden, Bremen
12 cs, 6,000 ozs, Roessler & H Chem Co, Amsterdam, R'dam
10 cs, 10,000 ozs, Stallman & F, St Louis, S'h'ton
RAPE SEED—1 bg, W Bartels, Aller, Bremen
8 bgs, B Ruhe, Aller, Bremen
RHUBARB—1 cs, G W Sheldon & Co, St Paul, S'h'ton
ROCHELLE SALTS—10 cs, C W Ferber, Prussia, H'b'g
ROOTS—28 bls, Schoelkopf, H & M, Patria, H'b'g
45 bls, Jno Clay, Martello, Hull
4 bls, M Zeller, Francisco, Hull
3 bls, Bichels & T, Pawnee, Trieste
6 bls, G W Sheldon & Co, Pawnee, Trieste
4 bls, Lehn & Fink, Prussia, H'b'g
10 bgs, C W Jacob & Co, Coleridge, Bahia
ROSEWATER—25 cbys, Fritzsche Bros, Prussia, H'b'g
SACCHARINE—2 cs, Merck & Co, Spree, Bremen
SAGE LEAVES—25 bls, J L Hopkins & Co, Picqua, Trieste
45 bls, Bichels & T, Pawnee, Trieste
SALTPETER—916 bgs, Smith & Schipper, Ontario, London
SARSAPARILLA—7 bls, I Brandon & Bro, Advance, Colon
3 bls, Pim, Forward & K, Alps, Kingston
SEEDS—4 bgs, Bichels & T, Pawnee, Trieste
1 cs, Lehn & Fink, Prussia, Hamburg
SENNA—15 bls, G W Sheldon & Co, St Paul, Southampton
30 bls, A U Andrus & Co, Prussia, Hbg
25 bls, Kirby & Birkett, Prussia, Hamburg
25 bls, Stallman & F, Prussia, Hamburg
SHELLAC—50 cs, Rogers & P, Michigan, London
199 cs, Berry Bros, Michigan, London
100 cs, N Y Shellac Co, St Paul, Sh'ton
SOAP, CASTILE—525 bxs, Weaver & Sterry, Ltd, Caledonia, Leghorn
21 cs, Alesia, Naples
100 bxs, M Leibmann & Co, Werra, Genoa
SODA ASH—21 cks, Churchman & Co, Tauric, Liverpool
43 cks, Perkins, G & Co, Tauric, Liverpool
12 cks and 1,000 bgs, Wing & Evans, Cevic, Liverpool
CAUSTIC—35 bxs, Troy L & M Co, Tauric, Liverpool
30 dms and 30 cks, A Klipstein & Co, Tauric, Liverpool
250 dms, Edw Hill's Son & Co, Tauric, L'pool
300 dms, Edward Hill's Son & Co, Anchoria, Glasgow
50 dms, Edw Hill's Son & Co, Wells City, Bristol
NITRITE—14 bbls, Heller & Merz Co, Menemsha, Rotterdam
NITRATE—16,772 bgs, Hemingway & B, Canary, Iquique
17,400 bgs, Hemingway & B, Asia, Iquique
OXALATE—16 cs, Hensel, B & L, Tauric, Liverpool
2 kgs, Dillon & Co, Mohawk, London
SPONGE—35 bls, I Kubie & Co, Yumuri, Havana
54 bls, Lasker & Bernstein, Yumuri, Havana
3 cs, Park & Tilford, St Louis, South'ton
40 bls, Lebess Sponge Co, New York, Turks Island
20 bls, A Isaacs & Co, Yucatan, Havana
43 bls, McKesson & R, Yumuri, Havana
44 bls, Vollman Sponge Co, Santiago, Nassau
137 bls, A Isaacs & Co, Santiago, Nassau
12 bls, Nt'l Sponge Co, Santiago, Nassau
115 bls, Lasker & Bernstein, Santiago, Nassau
32 bls, Lasker & Bernstein, Saratoga, Havana
STEARINE POWDER—2 kgs, Dillon & Co, Mohawk, London
STRONTIA NITRATE—80 kgs, Dillon & Co, Mohawk, London
SUMAC—280 bgs, Leber & Bernhart, Ohio, Palermo
210 bgs, Hirzel, Feltman & Co, Ohio, Palermo
200 bgs and 20 bls, Hirzel, Feltman & Co, Nor, Palermo
TALC—500 bgs, L A Salomon & Bro, Panama, B'd'x
TAMARINDS—2 bbls, A E Outerbridge & Co, Hesperia, Barbadoes
6 pkgs, H H Rusby, Castle Eden, Trinidad
TAR, COAL—10 cks, N Y Coal Tar Chem Co, Michigan, London
TERRA ALBA—90 bbls, W C Butler, Utility, Hillsboro
THYME—20 bls, Jno Clay, Tauric, L'pool
TAR—3 bbls, McKesson & R, Prussia, H'b'g
ULTRAMARINE—28 pkgs, A Keppelman, Lucania, L'pool
22 cs & 8 cks, C F Zentgraf, A'dam, R'dam
VARNISH—25 dms, 320 gls, Pomeroy & F, Mohawk, London
128 cs, 1,064 gls, J B Hicks, Ontario, London
VEGETABLE SUBSTANCE—10 bls, overland
VENETIAN RED—7 bbls, Hemingway & Co, Ontario, London
10 cks, D F Tiemann & Co, Francisco, Hull
VERDIGRIS—3 cks, Parsons & P, Neustria, Marseilles
VERMILION—1 ck, Pickhardt & K, Amsterdam, R'dam
4 cks, R F Downing & Co, Mohawk, London
VULCAN BLACK—10 cks, G W Sheldon & Co, Veendam, R'dam
WAX, BEES—2 cks, Park, Melbourne & Co, Alps, Jamaica
3 cs, Mosle Bros, Santiago, Cuba
1 bbl, Pim, Forward & K, Alps, Kingston
CARNAUBA—47 bgs, J H Rossbach & Co, Coleridge, Pernambuco
87 bgs, J H Rossbach & Co, Grecian Prince, Bahia
CERESIN—100 bgs, L A Salomon & Bro, Norge, Copenhagen
WHITE LEAD—20 cks, R F Downing & Co, Mohawk, London

WAREHOUSED.

ALCOHOL—50 bbls, R F Downing & Co, Patria, H'b'g
ANILINE COLOR—3 cks, C Bischoff & Co, Dresden, Bremen
4 bbls, J J Keller & Co, Kensington, Ant
38 pkgs, Farb of Eiberfeld Co, Kensington, Ant
78 cks, 10 kgs & 7 cs, W J Matheson & Co, Amsterdam, R'dam
4 cs, Geisenheimer & Co, Dresden, Bremen
2 cks, C Bischoff & Co, Trave, Bremen
BAY RUM—10 hf bbls, J W Roche, Madiana, St Croix
BRISTLES—4 cks, Lewiston Imp T Co, Aller, Bremen
CHEMICAL COMP—10 cs, Dodge & O, La Bretagne, Havre
COBALT, OXIDE—3 cs, Roessler & H Chem Co, Patria, H'b'g
CORKS—39 bls, L Mundett & Son, Panama, Bordeaux
65 bls, Gudewill & B, Cufic, L'pool
30 bls, M Frankel & Son, Panama, B'd'x
6 bls, Iglesias & Co, Panama, B'd'x
59 bls, A Dausse & Co, Panama, B'd'x
102 bls, W T Farrell & Co, Panama, B'd'x
19 bls, G Llado & Co, Panama, B'd'x
DEXTRINE—200 bgs, C Morningstar & Co, Virginia, Stettin
GALL, EXT—10 bbls, J J Keller & Co, Kensington, Ant
GLASS, PLATE—30 cs, S Bache & Co, British Queen, Ant
CYL—26 cs, O G Hempstead & Co, Amsterdam, R'dam
WINDOW—6,556 cs, S Bache & Co, British Queen, Ant
GLUE—25 cs, S Isaacs & Co, Memensha, R'dam
1 ck, S Isaacs & Co, Martello, Hull
24 cks, A Hodge & Co, Francisco, Hull
LICORICE—600 cs, E Utard, Panama, B'd'x
MEDICAL PREP—4 cs, Boehringer & S, Amsterdam, R'dam
20 cs, R F Downing & Co, Ems, Genoa
MICA—33 cs, E Munsell & Co, Ontario, London
OIL, CASTOR—20 bbls, Lanman & K, Cufic, L'pool
COD LIVER—49 bbls, Stallman & F, Francisco, Hull
25 bbls, Schoelkopf, H & M, Memensha, Swansea
ESS'L—7 cs, Dodge & O, Ontario, London
LINALOE—3 kgs, J W Wupperman, Yucatan, Vera Cruz
MARVILLORA—5 cs, McKesson & R, Prussia, H'b'g
YLANG YLANG—5 cs, C Rockhill, Teutonic, L'pool
PAINT, WHITE—50 cks, Gabriel & Schall, Dresden, Bremen
PITCH, CANDLE—22 cks, M Pincoffs, A'dam, R'dam
WHITE LEAD—10 cks, R F Downing & Co, Mohawk, London

WITHDRAWALS FROM BOND.

Week ending July 3.

Acid, Boracic, cks	5
Aniline Color, cs	46
cks	146
kgs	10
Bay Rum, gls	143
Camphor, cs	11
Cobalt, Oxide, cs	2
Corks, bls	137
Gall, Ext, bbls	10
Glass, Plate,, cs	13
Glass, Window, cs	1,900
Glycerine, dms	10
Licorice, cs	100
Lithopone, cks	10
Mica, cs	22
Oil, Castor, bbl	1
Oil, Olive, ck	1
Oil, Ylang Ylang, cs	3
Perfumery, cs	2
Soap, Castile, cs	213
Sponge, bls	13
Sumac, Ext, cks	10

Boston Imports.

ALIZARINE—10 cks, Providence Dry Salt Co, Belgian King, Ant
ANILINE SALT—36 cks, Belgian King, Ant
25 cs, Cestrian, L'pool
ANTICHLOR—217 cks, Belgian King, Ant
ARGOLS—10 cks, O S Lanney, Belgian King, Ant
BAUXITE—150 bgs, Cochrane Chem Co, Belgian King, Ant
BLEACH—5 bbls, Belgian King, Ant
82 cks, Morey, Cestrian, L'pool
154 cks, J L & D S Riker, Cestrian, L'pool
BRIMSTONE—1,660 bgs, Cestrian, L'pool
CANARY SEED—300 bgs, Cestrian, L'pool
CHINA CLAY—440 cks, Cestrian, L'pool
COLORS—6 cks, F C Atteaux, Belgian King, Ant
14 cks, Schroeder & S, Belgian King, Ant
FARINA—40 bgs, L C Porter, Cestrian, L'pool
EXTRACT—76 cks & 1 kg, Beach & Co, Scythia, Liverpool
GLASS, WINDOW—12,926 bxs, Belgian King, Ant
GLUE—100 bgs, Merchants' Disp Scythia, L'pool
GREASE—30 cks, Geo H Leonard & Co, Belgian King, Ant
416 cks, Belgian King, Ant
130 cks, Cestrian, L'pool
LEAD—1,220 pigs, St Ronans London
LIME JUICE—10 cks, Scythia, L'pool
NUTMEGS—43 cs, Belgian King, Ant
OIL, COD—55 cks, Geo H Leonard & Co, St Ronans, London
PAINT—250 pkgs, St Ronans, London
PHOSPHATE—1,250 bgs, Belgian King, Antwerp
POTASH—15 dms, Edw Hill's Son & Co, Belgian King, Antwerp
MURI—1,000 bgs, Asturia, Hamburg
PYRITES—7,000 tons, Silvia, Philley's Island
SOAP, CASTILE—250 bxs, Weaver & Sterry, Cestrian, L'pool
SODA—10 cks, T C Porter, Cestrian, L'pool
ASH—725 bgs, Cestrian, L'pool
10 cks, Cestrian, L'pool
1,325 bgs, 65 cks, Wing & E, Cestrian, L'pool
13 cks, 120 bgs, Wing & Evans, Michigan, L'pool
CAUSTIC—200 dms, Edw Hill's Son & Co, Scythia, L'pool
HYPO—33 cks, St Ronans, London
NITRATE—9 kgs, J A & W Bird, Belgian King, Antwerp
WHITE LEAD—8 cks, St Ronans, London

Philadelphia Imports.

ACID, LACTIC—2 bbls, O S Janney & Co, Illinois, Ant
CARB—48 bbls, Rhynland, L'pool
AMMONIA MURI—20 cks, E R Warrington Co, Rhynland, L'pool
20 cks, A Klipstein & Co, Rhynland, L'pool
SULPH—246 bgs, Rhynland, L'pool
ANTICHLOR—50 bbls, Rosengarten Sons, Illinois, Ant
ARSENIC—65 cks, A Klipstein & Co, Hermann, H'b'g
BLEACH—111 bbls, Ferguson Bros, Illinois, Ant
57 bbls, Illinois, Ant
131 cks, J L & D S Riker, Corean, L'pool
CHINA CLAY—200 cks, Dunn Bros, Rhynland, L'pool
78 cks, Corean, Glasgow.

DEXTRINE—200 bgs, M W Phillips, Asturia, H'b'g
IRON OXIDE—30 cks, Harrison Bros & Co, Corean, Glasgow
LEMON JUICE—50 pps, Massapequa, Messina
LIME CITRATE—37 cks, Massapequa, Messina
MAGNESIA CHLOR—150 bgs, A Klipstein & Co, Asturia, H'b'g
OIL, OLIVE—30 bbls, Rhynland, L'pool
SULPHUR—50 bbls, M W Phillips, Rhynland, L'pool
ESS'L—13 pkgs, Massapequa, Messina
PARRAFINE—10 bbls, Illinois, Ant
POTASH—100 bbls, A Klipstein & Co, Asturia, H'b'g
17 bbls, A Klipstein & Co, Illinois, Ant
25 dms, M W Phillips, Illinois, Ant
50 cks, Carter & Scattergood, Illinois, Ant
60 cks, Illinois, Ant
40 cks, Carter & Scattergood, Hermann, H'b'g
BICH—25 cks, J L & D S Riker, Corean, Glasgow.
CHLORATE—50 kgs, J L & D S Riker, Corean, Glasgow.
MURIATE—1,000 bgs, Hermann, H'b'g
SULPHATE—500 bgs, Hermann, H'b'g
500 bgs, Asturia, H'b'g
PUMICE—400 bgs, Massapequa, Messina
ROSIN—25 bbls, Harrison Bros. & Co, Illinois, Ant
SODA ASH—152 tcs & 1,200 bgs, Wing & Evans, Rhynland, L'pool
BICH—10 cks, J L & D S Riker, Corean, Glasgow.
CAUSTIC—208 dms, Edw Hill's Sons & Co, Corean, L'pool
PHOS—33 cks, Powers & W, Illinois, Ant
SAL—420 bbls, Jos I Keefe, Rhynland, L'pool
SIL—11 cks, Rhynland, L'pool
YOLK ASH—92 cks, Carter & Scattergood, Asturia, H'b'g
76 cks, Carter & Scattergood, Hermann, H'b'g

Baltimore Imports.

ACID, CARB—9 cs, Jno J Thomsen's Sons, Vedamore, L'pool
AMMONIA—5 cks, Hispania, Hamburg
BLEACH—49 cks, Vedamore, L'pool
CHINA CLAY—120 cks, Vedamore, L'pool
DUTCH METAL—3 cs, Salier, Bremen
GLASS, WINDOW—5 cs, Vedamore, L'pool
GUM ARABIC—6 cs, Jno J Thomsen's Sons, Vedamore, L'pool
KAINIT—135 tons, Hispania, Hamburg
MANURE SALT—1,000 bgs, Salier, Bremen
NATRIUM—60 cks, Hispania, Hamburg
OIL, PALM—16 cks, Patapsco, R'dam
OIL, HAARLEM—16 cs, Jno J Thomsen's Sons, Patapsco, R'dam
JUNIPER—1 cs, Jno J Thomsen's Sons, Vedamore, L'pool
LAUREL—1 cs, Jno J Thomsen's Sons, Vedamore, L'pool
PEPPER—100 bls, Patapsco, R'dam
SALT CAKE—127 cks, Vedamore, L'pool
SOAP—1 cs, Jno J Thomsen's Sons, Vedamore, L'pool
SODA ASH—480 bgs, Vedamore, L'pool
1,600 bgs, Wing & Evans, Sedgemore, L'pool
127 cks, 1,064 bgs, Wing & Evans, Ulstermore, L'pool
BICARB—100 kgs, Wing & Evans, Sedgemore, L'pool
100 cks, Wing & Evans, Ulstermore, L'pool
VANILLA BEANS—3 cs, Jno J Thomsen's Sons, Craigmore, Vera Cruz
VENICE TURPS—6 cs, Jno J Thomsen's Sons, Vedamore, L'pool

Newport News Imports.

PITCH, COAL TAR—1,000 bbls, Jas Lee & Co, Chickohominy, London
SODA, BICARB—150 cks, Wing & Evans, Shenandoah, L'pool

New Orleans Imports.

ACID—14 cks, Mira, L'pool
OIL—6 cks, British Prince, London
SOAP—400 bxs, Mira, L'pool
SODA, CAUSTIC—100 dms, Helvetia, Hamburg

EXPORTS FROM NEW YORK.

Week ending July 3.

ACID—3 cbys, $12, Philadelphia, Curacoa
18 cbys, $48, Ardanrose, Cuba
1 cs, $2, Madiana, Antigua
CARB—1 cs, $9, Advance, Colon
1 dm, $11, Ardanrose, Cuba
CITRIC—1 kg, $37, Seneca, Havana
1 kg, $39, Ardanrose, Cuba
MURI—16 cbys, $48, Seneca, Tampico
NITRIC—10 cbys, $60, Seneca, Tampico
8 cbys, $66, Philadelphia, La Guayra
OXALIC—1 bbl, $15, Seneca, Havana
1 cs, $5, Alene, Savanilla
STEARIC—1 bg, $8, Seneca, Tampico
SULPH—12 dms, $173, Seneca, Havana
12 dms & 20 cbys, $225, Seneca, Tampico
3 cbys & 8 dms, $163, Ardanrose, Cuba
TARTARIC—1 bbl, $76, Seneca, Havana
ALBUMEN—8 cs & 3 bbls, $950, British Queen, Antwerp
AMMONIA—1 kg, $13, Portia, St Johns
1 cby, $9, Philadelphia, La Guayra
2 dms, $99, Ardanrose, Cuba
1 bx, $1, Madiana, St Croix
CARB—1 cs, $13, Ardanrose, Cuba
SAL—2 cks, $102, Portia, Halifax
SULPH—85 bgs, $500, Lizzie B Willey, Martinique
ASPHALTUM—25 bbls, $260, Mohawk, London
BEANS, TONCA—2 cks, $1,520, Arroyo, London
VANILLA—1 bx, $1,000, Werra, Genoa
BARK—540 bgs, $500, Glenartney, London
EXT—200 bbls, $2,800, Martello, Hull
BONES—140 bgs, $1,680, Friesland, Antwerp
140 bgs, $750, Mohawk, London
399 bgs, $2,600, Br Queen, Ant
CAMPHOR—2 bbls, $220, Seneca, Havana
CANDLES—6 cs, $8, Alvena, Hayti
60 bxs, $107, Philadelphia, La Guayra
2 bxs, $6, Seneca, Tampico
1 cs, $2, Philadelphia, Curacoa
10 bxs, $95, Wm E Clowes, Demerara
121 bxs, $147, Alene, Savanilla
3 cts & 38 bxs, $94, Madeana, St Croix
CARBON—200 bbls, $2,000, Patria, Hamburg
200 bbls, $570, Mohawk, London
CHEMICALS—40 cks, $6,130, Mohawk, London
COPPER SULPHATE—88 bbls, $2,080, Pontiac, Genoa
1 bbl, $15, C Condal, Cuba
10 bxs, $20, Phila, La Guayra
44 bbls, $725, Werra, Genoa
38 bbls, $675, Pocahontas, Venice
DYE STUFF—20 cs, $2,827, St Louis, S'h'ton
DYEWOOD EXT—100 bxs, $667, Amsterdam, R'dam
DRUGS—10 cs, 5,000 lbs, $1,350, Arroyo, London
7 cs, 721 lbs, $1,980, Arroyo, London
FARINA—25 bgs, $88, Philadelphia, La Guayra
FLAXSEED—8,492 bu, $7,490, Wells City, Bristol
FERTILIZER—50 bbls, $285, Sarah A Douglas, Tarpan Bay
14 bgs, $50, Alene, Savanilla
GLUCOSE—249 bbls, $1,990, Bovic, L'pool
464 bbls, $4,680, Chicago City, Bristol
6 bbls, $50, Wilcannia, Cape Town
1 bbl, $11, Portia, St John's
50 bbls, $800, Cufic, L'pool
8 bbls, $70, Mohawk, London
854 bbls, $7,079, Martello, Hull
GLUE—2 bbls, $40, Mohawk, London
1 bbl, $46, Alvena, Hayti
3 cs, $13, Phyllis, Lyttleton
2 bbls, $49, Seneca, Havana
1 bbl, $19, Phila, La Guayra
3 bgs, $52, Alene, Savanilla
GRAPE SUGAR—3,000 bgs, $4,322, Bovic, L'pool
1,000 bgs, $1,600, Cufic, L'pool
2,250 bgs, $3,150, Glenartney
90 bbls, 1,499 bgs, $2,842, Mohawk, London
GREASE—250 tcs, $2,877, Neustria, Marseilles
75 hhds, $975, Mokta, Marseilles
50 tcs, $651, Yumuri, Progreso
21 hhds, $808, American, East London
5 bbls, 6 tcs, $84, Seneca, Tampico
1,010 tcs, $11,725, Neustria, Marseilles
30 tcs, $400, Patria, Hamburg
75 bbls, $845, Patria, Hamburg
110 cs, $1,175, La Bretagne, Havre
50 tcs, $700, Martello, Hull
AXLE—6 bxs, $12, American, Cape Town
35 bxs, $64, Wilcannia, Cape Town
40 cs, $80, Blengfell, Brisbane
20 cs, $60, Oberon, Port Natal
3 cs, $4, W E Clowes, Georgetown
10 cs, $15, Alene, Kingston
LUB—44 kgs, 25 bbls, $637, Bovic, L'pool
GUM ARABIC—1 cs, $114, Seneca, Havana
1 cs, $15, Philadelphia, La Guayra
THUS—15 bbls, $50, Amsterdam, R'dam
KALSOMINE—11 cs, $99, Phyllis, Lyttleton
221 cs, $1,029, American, Algoa Bay
36 cs, $188, Oberon, Port Natal
LEAD—4,635 pigs, 448,231 lbs, $11,200, Patria, H'b'g
2,311 pigs, 224,032 lbs, $5,700, Bovic, L'pool
2,302 pigs, 224,078 lbs, $5,600, Olbers, Manchester
1,151 pigs, 112,064 lbs, $2,800, Martello, Hull
LIME, ACETATE—468 bgs, $575, Caledonia, Glasgow
1,666 bgs, $1,825, Britannic, L'pool
1,618 bgs, $4,050, Patria, H'b'g
1,577 bgs, $3,525, British Queen, Ant
NAPHTHALINE—6 cs, $18, American, Port Natal
OIL, ALMOND—6 cs, $75, Phila., La Guayra
1 cs, $2, Madiana, Barbadoes
CAKE—1,882 bgs, $4,300, Bovic, L'pool
1,285 bgs, $3,470, Foscolia, King's Lynn
745 bgs, $1,990, St Louis, S'h'ton
4,550 bgs, $11,905, Mohawk, London
715 bgs, $2,098, Martello, Hull
CASTOR—6 cs, $91, Seneca, Havana
3 cs, $90, Ardanrose, Cuba
5 cs, $23, Madiana, Barbadoes
CORN—300 bbls, $4,500, British Queen, Ant
110 bbls, $1,600, Martello, Hull
COTTONSEED—100 bbls, $1,231, Aller, Bremen
500 bbls, $6,215, British Queen, Ant
945 bbls, $11,824, Neustria, Marseilles
50 cs, $150, C Condal, Progreso
310 bbls, $3,950, Bonny Doon, Rio Janeiro
100 bbls, $1,396, Portia, St John's
5 bbls, $52, Seneca, Tampico
47 bbls & 90 cs, $890, Madiana, Br West Indies
10 cs, 130 bbls, $1,700, Madiana, Fr West Indies
30 bbls, $410, W E Clowes, Georgetown
350 bbls, $15,900, Pocahontas, Trieste
50 bbls, $2,470, Pocahontas, Malta
10 bbls, $272, Umbria, L'pool
450 bbls, $6,680, Werra, Genoa
4 bbls, $32, Werra, Melbourne
145 bbls, $1,925, Neustria, Oran
575 bbls, $8,330, Neustria, Marseilles
225 bbls, $2,300, Patria, H'b'g
100 bbls, $1,230, Amsterdam, R'dam
500 bbls, $5,000, British Queen, Ant
32 bbls & 310 cs, $1,326, Alene, Kingston
CYL—1 bbl, $48, Philadelphia, La Guayra
3 bbls, Amsterdam, R'dam
ENGINE—25 cs, $53, Yumuri, Progreso
ESS'L—2 cs, $220, Patria, H'b'g
2 cs, $84, La Bretagne, Havre
HARNESS—3 cs, $10, Phila., La Guayra
LARD—1 bbl & 1,982 cs, $10,213, American, Cape Town, etc
75 bbls, $1,657, Croatia, Rio Janeiro
250 cs, $1,209, Wilcannia, Cape Town
1 bbl, $24, Philadelphia, Curacoa
5 bbls, $100, W E Clowes, Georgetown
10 bbls, $460, Mohawk, London
1 cs, $3, Madiana, St Croix
LINSEED—9 cs, $50, Sama, Port Limon
4 bbls & 1 cs, $88, Philadelphia, La Guayra
4 bbls, $78, Yucatan, Tampico
1 bbl & 14 cs, $75, Advance, Colon
21 cs, $111, Alene, Cartagena
4 cs, $19, Madiana, Barbadoes
LUB—5 bbls, $110, Martello, Hull
10 bbls, $225, Neustria, Marseilles
10 bbls, $430, Trave, Bremen
2,025 bbls & 135 cs, $11,724, Bovic, L'pool
1,055 bbls, $5,275, Pontiac, Genoa
460 bbls, $3,350, Pontiac, Barcelona
40 bbls, $360, Bonny Doon, Rio Janerio
800 bbls, $4,000, Mozambique, Calcutta
10 cs & 15 bbls, $178, Phyllis, Lyttleton
55 bbls, $727, Friesland, Ant
450 cs, $828, American, Pt Elizabeth
900 bbls, $3,950, Chicago City, Bristol
100 cs, $201, Wilcannia, Cape Town
1,175 cs & 60 bbls $2,668, Croatia, Rio Janeiro
102 bbls, $512, Castilian Prince, Buenos Ayres
1 cs, $2, Oberon, Port Natal
2 bbls, $30, Philadelphia, La Guayra
60 dms, $1,327, Seneca, Tampico
150 bbls & 225 cs, $1,200, Saltram, Iquique
40 bbls, $850, Wells City, Bristol
8 bbls, $89, Pocohontas, Fiume
20 bbls, $100, Polycarp, Para
7 cs, $27, Advance, Colon
530 bbls, $3,060, Neustria, Marseilles
2 cs & 1,274 bbls, $7,798, Patria, Hamburg
590 bbls, $3,788, La Bretagne, Havre
302 bbls, $1,760, Amsterdam, Rotterdam
1,736 bbls, $10,463, Mohawk, London
1,235 bbls, $6,175, Br Queen, London
1,380 bbls, $6,900, Martello, Hull
2½ bbls & 1 cs, $45, Madiana, St Croix
MEAL—2 bbls & 96 bgs, $141, Amerncan, P Elizabeth
1,140 bgs, $880, Chicago City, Bristol
13 pun & 233 bgs, $390, Madiana, Martinique
30 bbls, $60, W E Clowes, Georgetown
32 bgs, $40, Alene, Kingston
MIN'L COLZA—20 bbls, $100, Pontiac, Genoa
100 bbls, $500, Br Queen, Ant
MIRBANE—1 cs, $5, Alene, Cartagena
NEATSFOOT—15 tcs, $666, Mohawk, London
OLEO—120 tcs, $4,000, Trave, Bremen
75 tcs, $3,141, Friesland, Antwerp
515 tcs, $8,652, Virginia, Christiania
45 tcs, $994, Virginia, Copenhagen
50 tcs, $987, Portia, St John's
705 tcs, $15,200, Patria, Hamburg
2,841 tcs, $83,345, Amsterdam, Rotterdam
155 tcs, $2,664, Martello, Hull
PEP—1 cs, $55, Phyllis, Lyttleton
50 cs, $2,655, Arroyo, London
10 cs, $1,100, Patria, Hamburg
25 cs, $1,700, Aller, Bremen
42 cs, $3,875, Mohawk, London
SEW MACH—1 cs, $4, C Condal, Vera Cruz
1 cs, $12, Yumuri, Progreso
3 cs, $17, American, Port Elizabeth
10 cs, $30, Blengfelds, Brisbane
1 cs, $5, Philadelphia, La Guayra
16 cs, $74, Advance, Colon
1 cs, $5, Alene, Cartagena
SIGNAL—20 bbls, $592, Seneca, Tampico
SPERM—15 bbls, $364, Furnessia, Glasgow
1 bbl, $7, Philadelphia, Curacoa
TALLOW—25 cs, $110, Yumuri, Progreso
6 bbls, $110, Yucatan, Tampico
WINTERGREEN—2 cs, $93, Mohawk, London
PAINT—10 bbls, $158, La Bretagne, Havre
1 cs, $10, Alvena, Hayti
4 bbls, $27, Sama, P Limon
5 cs, $72, Virginia, Stettin
1 bbl and 12 cs, $218, Blengfell, Brisbane
2 bbls, $87, Portia, St Johns
1 cs, $9, Seneca, Havana
2 bbls and 17 cs, $213, Seneca, Tampico
9 cks, $183, Portia, Halifax
8 pkgs, $36, Phila, La Guayra
8 cs, $44, Phila, Curacoa
1 cs, $13, Oxus, Montego Bay
10 bbls, $170, Potomac, London
11 cs, $78, Advance, Colon
1 bbl and 1 cs, $9, Schleswig, Hayti
8 cs, $175, Patria, Hamburg
3 cs and 1 bbl, $59, Alene, Kingston
12 cs, $70, Alene, Cartagena
10 cs, $115, Madiana, St Thomas
PETROLEUM JELLY—1 cs, $43, C Condal, Progreso
100 cs, $3,383, St Louis, Southampton
1 cs, $15, Oberon, Port Natal
11 cs, $561, Seneca, Havana
28 bbls, $436, Umbria, Liverpool
126 cs, $3,500, Patria, Hamburg
2 cs, $19, Ardanrose, Cuba
51 cs, $1,337, Martello, Hull
1 cs, $10, Alene, Kingston
2 cs, $8, Madiana, St Croix
PHOSPHORUS—5 cs, $500, Br Queen, Ant
PITCH—10 bbls, $20, Portia, St Johns
30 bbls, $52, W E Clawes, Georgetown
2 bbls, $4, Alene, Kingston
PLUMBAGO—1 bbl, $25, Neustria, Marseilles
POTASH—100 cks, $2,160, La Bretagne, Havre
2 bbls, $65, Phyllis, Lyttleton
CHLORATE—1 kg, $10, Phila, La Guayra
CYANIDE—4 cs, $200, Yumuri, Vera Cruz
ROSIN—616 bbls, $1,500, Caledonia, Glasgow
30 bbls, $130, Bonny Doon, Rio Janeiro
1 bbl, $3, Sama, P Limon
119 bbls, $455, Phyllis, Lyttleton
5 kgs, $7, American, Cape Town
10 bbls, $66, Wilcannia, Pt Elizabeth
5 bbls, $15, Portia, St Johns
350 bbls, $1,350, Meron, Santos
215 bbls, $739, Phila, P Cabello
200 bbls, $742, Cufic, L'pool
1 bbl, $4, Schleswig, Hayti
20 bbls, $74, Alene, Kingston
SARSAPARILLA—15 bls, $230, Pontiac, Barcelona
10 bls, $148, Britannic, L'pool
5 bls, $218, Neustria, Marseilles
SHEEP DIP—44 bbls, $1,120, Trave, Bremen
SOAP—1,250 bxs, $3,000, Mohawk, London
53 cs, $78, C Condal, Progreso
677 bxs, $445, Alvena, Hayti
1 cs, $42, Phyllis, Dunedin
20 cs, $32, Sama, Pt Limon
3 cs, $175, Blengfell, Brisbane
400 bxs, $1,600, Castillian Prince, Buenos Ayres
25 cs, $70, Portia, Halifax
25 cs, $117, Saltram, Valparaiso, etc
1,100 bxs, $610, Schleswig, Hayti
8 bxs, $25, Advance, Colon
1 ck, $51, Amsterdam, R'dam
80 cs, $175, Martello, Hull
27 cs, $102, Alene, Kingston
18 cs, $73, Alene, Cartagena
35 bxs, $80, Madiana, Barbadoes
SODA ASH—5 bbls, $24, Philadelphia, P Cabello
CAUSTIC—13 dms, $241, Phila, La Guayra, etc
NITRATE—249 bgs, $1,225, L B Willey, Martinique
SPERMACETI—25 cs, $490, Patria, H'b'g
10 cs, $207, La Bretagne, Havre
25 cs, $481, Br Queen, Ant
SPONGE—4 bls, $100, Pocahontas, Trieste
28 bls, $510, Amsterdam, R'dam
STARCH—250 bgs, $950, Cufic, L'pool
300 bgs, $1,500, St of Nebraska, Glasgow
6 bbls, $58, La Bretagne, Havre
11 bbls & 19 bxs, $140, Madiana, St Croix
CORN—35 bxs, $35, Alene, Kingston
STEARINE—500 tcs, $10,500, Mokta, Marseilles
44 hhds, $2,800, Larquois, Havre
50 tcs, $772, Martello, Hull
TALLOW—419 bbls & 1,025 tcs, $37,075, Mokta, Marseilles
50 hhds, $2,000, Bovic, L'pool
100 hhds, $3,900, Braunschweig, Bremen
125 tcs, $1,838, Virginia, Stettin
2 tcs, $27, Seneca, Tampico
8 tcs, $120, W E Clowes, Georgetown

J. L. & D. S. RIKER

46 CEDAR STREET, NEW YORK

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1,522 tcs, $18,230, Pocahontas, Venice
300 tcs, $7,831, Werra, Genoa
25 hhds, $1,575, Patria, H'b'g
50 tcs, $2,018, Mohawk, London
125 tcs, $2,000, Martello, Hull
4 bxs, $6, Madiana, Dominica

TAR—2 bbls, $8, Sama, Port Limon
2 bbls, $8, Phila, P Cabello
3 bbls, $8, Schleswig, Hayti
3 bbls, $10, Alene, Cartagena

TURPENTINE—400 bbls, 200 cs, $6,286, Pontiac, Genoa
550 cs, $1,851, Bonny Doon, Rio Janeiro
7 cs, $29, Sama, P Limon
815 cs, $2,677, Phyllis, Dunedin
88 cs, $347, American, Cape Town
16 cs, $110, Wilcannia, Cape Town
9 cts, 2 cs, $115, Oberon, P Natal
500 cs, $1,550, Meron, Santos
5 bbls, 10 cs, $90, Portia, St Johns
15 bbls, $200, Portia, Halifax
5 cs, $18, Seneca, Havana
2 bbls, 1 cs, $34, Phila, La Guayra
13 cs, $44, Seneca, Tampico
2 cs, $7, Philadelphia, Curacoa
1 bbl, $7, Advance, Colon
3 cs, $11, Alene, Savanilla
7 cs, $24, Madiana, Barbadoes

VARNISH—450 gls, $732, Trave, Bremen
10 gls, $6, C Condal, Progreso
150 gls, $160, American, P Elizabeth
80 gls, $53, Wilcannia, Delagoa Bay
50 gls, $47, Seneca, Havana
310 gls, $248, Seneca, Tampico
80 gls, $60, Phila, La Guayra
300 gls, $481, Patria, Hamburg
300 gls, $874, Mohawk, London
1,113 gls, $870, Br Queen, Antwerp
130 gls, $196, Alene, Savanilla
19 gls, $56, Madiana, Guadaloupe

ULTRAMARINE—1 cs, $22, Phila, La Guayra
WAX, BEES—3 bbls, $187, Mohawk, London
PAR—480 bbls, $7,956, Bovic, L'pool
400 bgs, $3,600, Pontiac, Genoa
5 bgs, $32, C Condal, Progreso
55 bgs, $662, Yumuri, Progreso
255 cs, $2,775, American, P Elizabeth
1,076 bgs, $5,742, Seneca, Tampico
50 cs, $530, Patria, Hamburg
100 cs, $1,000, Amsterdam, R'dam
1,215 bbls, $20,122, Mohawk, London
434 bbls, $3,500, Martello, Hull

WHALEBONE—610 lbs, $1,300, Miss, London
2 pkgs, 700 lbs, $1,565, Aller, Bremen
WHITING—½ bbl, $1, Alvena, Hayti
2 bbls, $6, Seneca, Havana
ZINC, OXIDE—50 bbls, $322, Chicago City, Bristol

Boston Exports.

ACID LACTIC—10 bbls, Storm King, Antwerp
AMMONIA, 36 bxs, Olivette, Halifax
DYESTUFF—4 bbls, Halifax, Halifax
GLUE—15 bbls, Columbian, London
GREASE—12 bbls, Lancastrian, Liverpool
OIL, LUB—5 bbls, Halifax, Halifax
5 bbls, Olivette, Halifax
SALAD—3 bbls, Halifax, Halifax
PITCH—10 bbls, Olivette, Halifax
ROSIN—564 bbls, Lancastrian, L'pool
250 bbls, Norseman, L'pool
SOAP—20 bxs, Yarmouth, Yarmouth
24 cs, Columbian, London
STARCH—500 bgs, Lancastrian, L'pool
TALLOW—700 bbls, Lancastrian, L'pool
WAX, BEES—11 bxs, Lancastrian, L'pool

Philadelphia Exports.

BONE CLIPPINGS—204 bgs, Pennsylvania, Ant
GLUCOSE—200 bbls, Carthagenian, Glasgow
GREASE—50 bbls, Pennsylvania, Ant
30 bbls, Oranmore, London
208 bbls, Waesland, L'pool
LIME, ACETATE—735 bgs, Carthagenian, Glasgow
100 tons, Nederland, Ant
OIL CAKE—2,196 bgs, Pennsylvania, Antwerp
1,600 bgs, Pennsylvania, Antwerp
1,440 bgs, Oranmore, London
706 bgs, Carthagenian, Glasgow
2,530 bgs, Waesland, Ant
600 tons, Federland, Ant
350 tons, Indiana, L'pool
LUB—1,781 bgs, Pennsylvania, Antwerp
2,040 bgs, Oranmore, London
875 bbls, Carthagenian, Glasgow
370 bbls, Waesland, L'pool
7,300 cs, Geo Curtis, Nagasaki
PAINT—25 cans, Robert & Russell, Hope Town
56 pkgs, Leda Fowler, Old Providence
SOAP—203 bxs, Oranmore, L'pool
800 bxs & 63 cts, Waesland, L'pool
4 bxs, Roberts & Russell, Hope Town
STARCH—100 bgs, Carthagenian, Glasgow
1,000 bgs, Waesland, L'pool
2 bxs, Roberts & Russell, Hope Town
TALLOW—100 tcs, Waesland, L'pool
WAX PAR—150 bbls, Pennsylvania, Ant
300 bbls, Oranmore, London
150 bbls, Carthagenian, Glasgow
ZINC SKIMMINGS—21 bbls & 7 cks, Waesland, L'pool

Baltimore Exports.

BARK QUERCITRON—72,000 lbs, Bohemia, H'b'g
144,000 lbs, Alma, Havre
EXT—10,314 lbs, Hestia, Glasgow
COPPER SULPHATE—68,175 lbs, Cayo Blanco, Ant
79,250 lbs, Templemore, L'pool
79,777 lbs, Alma, Havre
GLUCOSE—126,211 lbs, Cayo Blanco, Antwerp
50,533 lbs, Templemore, Liverpool
32,179 lbs, Bohemia, H'b'g
GRAPE SUGAR—30,492 lbs, Templemore, L'pool
GREASE, BONE—36,280 lbs, Bohemia, H'b'g
VEGETABLE—3,552 lbs, Tampico, R'dam
LEAD—112,420 lbs, Lord O'Neill, Belfast
OCHRE—223,440 lbs, Urbino, Leith
OIL CAKE—565,156 lbs, Lord O'Neill, Belfast
1,276,513 lbs, Caya Blanco, Ant
338,622 lbs, Templemore, L'pool
112,000 lbs, Bohemia, H'burg
307,000 lbs, Alma, Havre
115,060, lbs, Urbino, Leith
COTTONSEED—6,875 gls, Hestia, Glasgow
10,000 gls, Tampico, R'dam
3,275 gls, K J Ireland, Rio Janeiro
LARD—2,500 gls, Lord O'Neill, Belfast
6,000 gls, Alma, Havre
LUB—9,000 gls, Bohemia, H'burg
5,500 gls, Hestia, Glasgow
3,500 gls, Alma, Havre
OLEO—2,520 lbs, Lord O'Neill, Belfast
6,120 lbs, Hestia, Glasgow
247,571 lbs, Tampico, R'dam
ROSIN—5,000 gls, Bohemia, H'burg
NEATSFOOT—4,400 gls, Templemore, L'pool
ROSIN—158 bbls, Templemore, L'pool
1,741 bbls, K J Ireland, Rio Janeiro
SOAP—155 lbs, Bohemia, H'burg
STARCH—33,600 lbs, Lord O'Neill, Belfast
140,200 lbs, Templemore, L'pool
30,800 lbs, Hestia, Glasgow
STEARINE—350,098 lbs, Alma, Havre
TALLOW—68,000 lbs, Bohemia, H'burg
TURPENTINE—2,000 gls, K J Ireland, Rio Janeiro
WAX, PAR—115,656 lbs, Bohemia, H'burg

Savannah Exports.

PITCH—160 bbls, $698, Garfield, R'dam
ROSIN—1,400 bbls, $5,185, Leviathan, L'pool
4,500 bbls, $11,818, Louise, H'burg
3048 lbs, $8,688, Garfield, R'dam
TURPENTINE—4,890 cks, $63,583, Leviathan, L'pool
100 cks, $1,204, Leviathan, L'pool
3,575 bbls, $42,664, Louise, H'burg
800 bbls, $11,416, Garfield, R'dam

New Orleans Exports.

COTTONSEED—5,974 bgs, Mexican, L'pool
MEAL—672 bgs, Bentala, Hamburg
OIL CAKE—6,350 bgs, Niagara, Dublin
895 bgs, Mexican, L'pool
COTTONSEED—50 bbls, R Harrowing, R'dam
OLEO—125 tcs, R Harrowing, R'dam
ROSIN—2,681 bbls, Bentala, Hamburg

San Francisco Exports.

ACID—1 pkg, $22, City of Sydney, Mexico
4 pkgs, $23, Galilee, Tahiti
8 pkgs, $54, Orizaba, Mexico
1 pkg, $10, City of Puebla, Victoria
AXLE GREASE—2 pkgs, $4, Galilee, Tahiti
5 pkgs, $10, Orizaba, Mexico
BORAX—550 lbs, $37, Orizaba, Mexico
BRIMSTONE—2,343 lbs, $44, City of Puebla, Victoria
CANDLES—3 cs, $37, City of Sydney, Cen Am
2 cs, $2, Monowai, Apia
1 cs, $6, Galilee, Tahiti
85 cs, $328, Orizaba, Mexico
1 cs, $2, Jennie, Herschel Island
30 cs, $68, J D Spreckels, Mahukona
FERTILIZER—256,000 lbs, $4,409, S C Allen, Honolulu
200,000 lbs, $4,030, S N Castle, Honolulu
450,000 lbs, $5,272, S G Wilder, Honolulu
180½ tons, $6,178, J D Spreckels, Mohukona
GINSING—1,434 lbs, $6,800, Peru, China
LEAD—159 lbs, $10, Orizaba, Mexico
OIL, CAKE—43 bgs, $43, J D Spreckels, Mohukona
LINSEED—8 pkgs, $178, City of Sydney, Cen America
LUB—5 pkgs, $110, City of Sydney, Cen Am
20 pkgs, $76, Orizaba, Mexico
200 gls, $60, Vine, Cen Am
WHALE—78 gls, $268, Monowai, Australia
100 gls, $40, Orizaba, Mexico
4 pkgs, $40, Vine Caroline Islands
PAINT—160 pkgs, $866, City of Sydney, Cen America
15 pkgs, $200, Belgic, Japan
13 pkgs, $33, Monowai, New Zealand
1 pkg, $7, Monowai, Apia
6 pkgs, $125, Umatilla, Victoria
3 pkgs, $21, Galilee, Tahiti
39 pkgs, $173, Orizaba, Mexico
19 pkgs, $123, S C Allen, Honolulu
1 pkg, $4, S N Castle, Honolulu
5 pkgs, $58, City of Pueblo, Victoria
16 pkgs, $71, Jeanie, Herschel Island
1 pkg, $6, S G Wilder, Honolulu
2 cs, $17, Walla Walla, Victoria
20 pkgs, $116, Vine, Cen America
QUICKSILVER—150 flasks, $5,025, Orizaba, Mexico
PITCH—12 bbls, $36, Umatilla, Victoria
ROSIN—50 bbls, $338, City of Sydney, Central America
7 bbls, $47, Orizaba, Mexico
SOAP—21 bxs, $50, Peru, Seoul
205 bxs, $558, Galilee, Tahiti
30 bxs, $48, Galilee, Talohae
3 bxs, $9, Orizaba, Mexico
1 bx, $3, S C Allen, Honolulu
15 bxs, $60, Jeanie, Herschel Island
35 bxs, $100, S G Wilder, Honolulu
70 bxs, $92, Vine, Central America
130 bxs, $374, J D Spreckels, Mahukona
SODA, CAUSTIC—3,700 lbs, $78, City of Sydney, Central America
BICARB—2,352 lbs, $—, Orizaba, Mexico
SAL—10,000 lbs, $60, Umatilla, Victoria
305 lbs, $3, Jeanie, Herschel Island
SIL—600 lbs, $10, Orizaba, Mexico
STARCH—13 pkgs, $41, Orizaba, Mexico
TALLOW—47,335 lbs, $1,945, City of Sydney, Central America
2,724 lbs, Orizaba, Mexico
66,590 lbs, $3,162, Vine, Central America
TAR—1 bbl, $7, Galilee, Tahiti
TURPENTINE—21 cs, $100, City of Sydney, Central America
7 cs, $34, Orizaba, Mexico
10 cs, $40, S C Allen, Honolulu
3 cs, $10, Jeanie, Herschel Island

NEW YORK DOMESTIC RECEIPTS.

Week ending July 2.

ALCOHOL—343 bbls, J A Webb & Son, B & O R R
ASHES—29 pkgs, order, B I L
BONE MEAL—1,500 bgs, Forward, Galveston
BORAX—4,107 bgs, W J Mather, San Francisco
FLAXSEED—41,800 bu, H B Herbert, canal boats
16,650 bu, Lehman Bros, canal boats
25,050 bu, P H Vilmer, canal boats
8,400 bu, J Glenn, canal boats
FERTILIZER—424 bgs, order, Savannah
GLUCOSE—900 bbls, order, P R R
100 bbls, order, E R R
1,140 tons, order, canal boats
GREASE—110 pkgs, various N R boats
100 bbls, E S Kuh, P R R
11 pkgs, G W Martin & Co, P R R
45 tcs, H W Calif, W S R R
67 tcs, H W Calif, E R R
300 tcs, E Volk, P R R
84 pkgs, order, P R R
27 pkgs, Davis Oil Co, C R R of N J
HIGHWINES—175 bbls, Nat'l Dist Co, P R R
455 bbls, Am Dist Co, D, L & W R R
132 bbls, F O Boyd & Co, B & O R R
65 bbls, Nat'l Dist Co, B & O R R
55 bbls, J A Webb & Son, B & O R R
LEAD—2,084 pigs, E Brush, O D S S Co
5,400 pigs, Ronald & Co, O D S S Co
1,200 pigs, Latham Bros, O D S S Co
533 pigs, American L Co, E R R
706 tons, order, canal boats
OIL, CAKE—815 bgs, I & C Moore Co, L V R R
1,000 bgs, export, L V R R
1,440 bgs, export, D, L & W R R
976 bgs, export, E R R
600 bgs, I H Reed & Co, L V R R
1,000 bgs, A D Strauss, L V R R
203 bgs, export, C R R of N J
1,720 bgs, F H Parker, Jr, canal boats
820 bgs, I & C Moore & Co, E R R
COTTONSEED—700 bbls, export, O D S S Co
60 bbls, Williams, F & Co, O D S S Co
50 bbls, Fla Mfg Co, Jacksonville
73 bbls, J Macy's Sons, Brunswick
600 bbls, Hopkins, D & Co, Brunswick
LARD—60 bbls, Fowler Bros, H R R R
60 bbls, Manhattan Oil Co, D, L & W R R
LUB—60 bbls, order, H R R R
60 bbls, Funch, Edye & Co, D, L & W R R
60 bbls, Lambert & B, C R R of N J
35 bbls, Fiske & Co, C R R of N J
OLEO—75 tcs, order, H R R R
50 tcs, export, B & O R R
1,042 tcs, export, W S R R
961 tcs, export, D, L & W R R
120 tcs, export, E R R
60 tcs, export, P R R
PITCH—20 bbls, order, Savannah
ROSIN—216 bbls, W J Keenan, O D S S Co
3,597 bbls, order, Savannah
53 bbls, Tolar, H & Co, O D S S Co
110 bbls, Baily & M, O D S S Co
175 bbls, forward, O D S S Co
500 bbls, Paterson, D & Co, Charleston
467 bbls, order, Brunswick
800 bbls, Paterson, D & Co, Brunswick
30 bbls, Tolar, H & Co, Brunswick
360 bbls, Baily & M, Brunswick
SOAP STOCK—384 bbls, H Sayer & Co, New Orleans
SPELTER—595 pcs, Am Metal Co, P R R
1,068 pcs, Bertha M Co, O D S S Co
STEARINE—14 bbls, G F Taylor, C R R of N J
STARCH—964 pkgs, export, P R R
TALLOW—75 tcs, export, H R R R
54 bbls, H W Calef, H R R R
6 bbls, Ferris & K, H R R R
31 bbls, E S Kuh, H R R R
350 bbls, E Volk, L V R R
403 tcs, export, L V R R
21 bbls, H W Calef, W S R R
100 bbls, G Vandenhove, W S R R
150 bbls, J H Strotman, B & O R R
12 bbls, H W Calef, N Y, Ont & W
19 pkgs, P Van Iderstine, C R R of N J
340 pkgs, various, N R boats
30 bbls, order, P R R
200 tcs, export, P R R
700 bbls, E Volk, O D S S Co
9 bls, H W Calef, O D S S Co
9 bbls, E Volk, Charleston
150 tcs, E Meyer, P R R
35 bbls, Kraft & Co, L V R R
38 bbls, H W Calef, D, L & W R R
3 pkgs, Welch, H & G Co, C R R of N J
10 tcs, Ferris & K, C R R of N J
83 tcs, G Vandenhove, L V R R
19 pkgs, G Vandenhove, D, L & W R R
30 pkgs, order, D, L & W R R
TAR—28 bbls, Tolar, H & Co, O D S S Co
TURPENTINE—45 bbls, Baily & M, O D S S Co
60 bbls, Tolar, H & Co, O D S S Co
585 bbls, various, Savannah
7 bbls, C B Lurton, O D S S Co
45 bbls, Baily & M, O D S S Co
120 bbls, Paterson, D & Co, Charleston
100 bbls, M W Larendon, Charleston
100 bbls, Paterson, D & Co, Brunswick
16 bbls, Tolar, H & Co, Brunswick

TOTAL DOMESTIC RECEIPTS.

At New York for week ending July 2, 1896:

		For Week.	Since Jan. 1.
Alcohol	bbls	343	3,596
Beeswax	pkgs	....	153
Bone black	bgs	....	9,770
Borax	bgs	4,107	47,175
Brimstone	bgs	....	1,091
Cottonseed	bgs	....	36
Ashes	bgs	....	4,581
Cake	bgs	....	4,510
Hulls	bgs	....	1,460
Meal	bgs	....	9,814
Flaxseed	bu	91,900	961,082
Glue	pkgs	....	571
Glucose	bbls	4,000	49,607
Grease	pkgs	746	19,248
Highwines	bbls	882	31,300
Lead	pigs	24,043	270,266
Mustard seed	bgs	....	16,328
Oil, cake	bgs	8,569	155,550
Cottonseed	bbls	1,483	106,833
Fish	bbls	....	1,229
Lard	bbls	120	2,700
Lubricating	bbls	235	21,884
Whale	bbls	....	280
Oleo, stock	tcs	2,308	49,546
Pitch	bbls	20	2,826
Quicksilver	flks	....	5,800
Rosin	bbls	6,308	188,302
Soap	bbls	....	270
Stock	bbls	384	3,529
Spelter	pcs	1,663	51,465
Sponges	cts	....	7
Starch	pkgs	946	10,047
Stearine	pkgs	14	3,552
Sumac	bgs	....	872
Tallow	pkgs	2,877	36,352

Hypophosphites LIME, SODA, POTASSIUM

Oil Croton, Oil Mustard, Artificial

Benzoic Acid from Toluol

MERCK & CO. **Carbolic Acid**

MERCK BUILDING (Cor. University & Clinton Places).

Tar	.....bbls	28	12,828
Turpentine, crude	bbls	....	1,231
Spirits	.....bbls	1,087	57,996

Boston Domestic Receipts.

GREASE—363 bbls
OIL, ROSIN—10 bbls, Savannah
ROSIN—1,207 bbls, Savannah
TALLOW—218 bbls, 200 tcs
TURPENTINE—318 bbls, Savannah

Baltimore Domestic Receipts.

OIL, ROSIN—8 bbls, Savannah
ROSIN—2,231 bbls, Savannah
TAR—32 bbls, Savannah
TURPENTINE—70 bbls, Savannah

Savannah Domestic Receipts.

COTTONSEED, HULLS—1 car
MEAL—2 cars
NAPHTHA—1 car
OIL, COTTONSEED—3 cars, 500 bbls
PHOSPHATE—13 cars
ROSIN—23,718 bbls
TAR—1 car
TURPENTINE—9,938 bbls

New Orleans Domestic Receipts.

ALCOHOL—68 bbls
BORAX—818 bgs
COTTONSEED—62 bgs
MEAL—24 cars, 13,669 bgs
FERTILIZER—4 cars
GLUCOSE—250 bbls
GLASS—2 cars
OIL CAKE—9 cars, 425 bgs
COTTONSEED—19 cars, 200 bbls
PETROLEUM—3 cars
ROSIN—2 cars, 200 bbls
SOAP—4 cars, 123 bxs
STOCK—34 bbls
SODA—1 car
STARCH—2 cars
TALLOW—1 bbl
TAR—1 car
TURPENTINE—100 bbls
WHITE LEAD—1,402 kgs

GOODS ON THE WAY TO THE UNITED STATES BY MAIL.

Calcutta.

TO NEW YORK.

Falls of Foyers, 6,923 bgs saltpeter, 5,043 bls jute butts, 250 bgs turmeric
Kistana, 10,850 bgs saltpeter, 11,172 bls jute butts, 500 bgs turmeric, 59 cs indigo

TO BOSTON.

Cape Wrath, 1,120 bgs saltpeter, 14,362 bls jute butts

To Philadelphia from Calcutta

Wanderer, 3,673 bgs saltpeter, 16,000 bls jute, 5,693 bls jute butts

Ceylon.

TO NEW YORK.

Edmonton, 1,100 tons cocoanut oil, 300 tons plumbago
Loudon Hill, 425 tons cocoanut oil

Singapore.

TO NEW YORK.

Falconhurst, 8,000 bls gambier
Adolph Obig, 4,000 bls gambier

To Boston from Singapore.

Antioco Accame, 4,500 bls gambier

West Coast South America.

TO NEW YORK.

Janet Court, 10,000 bgs nitrate soda
Rising Star, 10,000 bgs nitrate soda
Lake Ontario, 11,000 bgs nitrate acid
Str Kara, 22,000 bgs nitrate soda
Str Cacique, 24 bgs nitrate soda
Trinandra, 18,000 bgs nitrate soda
Str Condor, 24,000 bgs nitrate soda
Str Wakefield, 20,000 bgs nitrate soda
Portland Lloyds, 10,000 bgs nitrate soda
Olympic, 16,000 bgs nitrate soda

RECORD OF VESSELS.

Port and Name. Calcutta.	Sailed.	Last Reported.
Falls of Foyers.....	March 16	
Cape Wrath.....	March 17	
Kistana.....	April 1	
Wanderer..... Ceylon.	May 3	
Edmonton.....	At St. Thomas June 13	
Loudon Hill..... Singapore.	Via Cochin April 17	
Falconhurst.....	April 16	
Antioco Accame.....	May 2	
Adolph Obrig..... W. C. S. Amer.	May 22	
Janet Court.....	At St. Thomas in dis-	
Rising Star.....	tress	
Lake Ontario.....	Due June, Pigeon Point	
Str Kara.....	Due Aug, Philadelphia	
Str Cacique.....	Due July	
Trinandra.....	Due Aug	
Str Condor.....	Due Sept	
Str Wakefield.....	Due Sept	
Portland Lloyds.....	Due Sept	
Olympic.....	Due Sept, Delaware	

Determination of Caffeine in Tea.

BY A. PETET AND P. PERRAT.

When dried tea is treated with chloroform, but a small portion of the caffeine present is removed, in spite of the great solvent power of the liquid for the alkaloid, and it appears to be with the view of obviating this difficulty that certain chemists have recommended the addition of lime or magnesia to remove the caffeine from its natural combination. Commaille, amongst others, makes the tea and magnesia into a stiff paste, which is left for about twenty-four hours, then dried on a water bath, and exhausted with chloroform. This process, however, is far from giving exact and concordant results, as is proved by the accompanying table; in fact, by this process, from tea containing 2.5 per cent. of caffeine, we have obtained only from 0.3 per cent. to 1.2 per cent., according to the conditions of the experiment. There is nothing novel in this observation, however, and experiments by Paul and Cownley, who made a special study of the subject, seemed to show that magnesia and, more especially, lime, possess the property of retaining caffeine when chloroform is used as a solvent. According to those chemists alcohol should be substituted for chloroform, as it does not cause the same difficulty. The employment of alcohol of 80 degrees or 60 degrees has given us very satisfactory results, but with alcohol of 98 degrees there was a very great loss.

To elucidate the question whether caffeine really combines with lime and magnesia or not, we have conducted two assays by Commaille's process, using calcined magnesia, slaked lime and perfectly dry caffeine, and have been able to recover all the caffeine known to be present. Our results then are not in accord with those obtained by Dr. Paul, who experienced a loss of 27 per cent. with a mixture of caffeine and lime and a loss of 0.8 per cent. when magnesia was employed.

Combination of the lime or magnesia with the caffeine fails as an explanation of the small yield when chloroform is used for extraction. On the other hand, if the tea be damp, the yield of caffeine is not surpassed by that obtained by any other process. This method, recommended by A. Petit and Legrip, appears to be little known or employed, the probable reason being the existence of a preconceived notion that chloroform cannot completely exhaust a substance containing much water; indeed, it is quite customary to dry such substances before acting upon them either with chloroform or ether. This procedure may be necessary in certain cases, but not in the case of tea, in fact, the presence of water is indispensable to obtain a good result. The water appears to dissociate the caffeine from its combinations and thus permits the chloroform to exercise its solvent effect properly.

A further proof of the action of water is found in the process of Grandval and Lajoux, who, believing the presence of an alkali to be necessary, and yet wishing to avoid the use of lime or magnesia, substituted ammonia in the proportion of 30 Gm. for 100 Gm. of either of those bases. They prepared a mixture of tea, ammonia and ether, and percolated it with chloroform, but the results were not better than those obtained by Petit and Legrip's process, and it is evident that the ammonia is unnecessary. By the use of alcohol of 80 degrees and 60 degrees, we have obtained almost as good results, but the operation is longer than when chloroform is employed, and it is also more difficult to obtain the caffeine in a pure state.

The following are the details of the Petit and Legrip process: Twenty-five Gm. of powdered tea is treated with three times its weight of boiling water, and left in contact with it for a quarter of an hour, with occasional agitation. The mixture is next evaporated on a water bath until the tea is just damp and then extracted with chloroform, the percolation being continued until some of the residue left by the chloroform, when dissolved in boiling water and the solution filtered, gives neither precipitate nor opacity on the addition of a solution of tannin. Finally, distil off the chloroform, dissolve the residue in boiling water, filter the solution through paper, wash carefully and evaporate on a water bath. Usually, the caffeine thus obtained is sufficiently pure to be weighed forthwith.

To remove the chlorophyll, which sometimes impairs the purity of the product, the method followed by Grandval and Lajoux may be adopted: The impure caffeine is dissolved in the cold in 15 C. c. of 10 per cent. sulphuric acid, and the solution left for some time before filtration, after which the acid is neutralized with ammonia, and the liquid evaporated. The dry residue is next treated with chloroform, and the chloroform solution evaporated at a very low temperature.

The results stated in the following table demonstrate the effect of the presence of water, the tea used in the experiments containing 2.5 per cent. of caffeine:

Method Employed.	Caffeine Obtained.
Dried tea exhausted with anhydrous chloroform	0.18 per cent.
Dried tea exhausted with hydrated chloroform	0.52 "
Dried tea exhausted with boiling chloroform	0.48 "
Petit and Legrip's process: Moist tea exhausted with chloroform.	2.50 "
Grandval and Lajoux's process: Dried tea and ammonia.....	2.44 "
Commaille's process:	
After complete desiccation of the mixture	0.30 "
The mixture being slightly moist	1.20 "
The same, very moist..	2.50 "
Tea treated with boiling water, dried and then exhausted with chloroform	0.20 "
The same, moistened with water before exhausting with chloroform	2.50 "
Tea, lime and water mixed into damp paste, dried and exhausted with chloroform	0.80 "
The same, moistened with water before exhausting with chloroform	2.47 "
Dried tea exhausted with alcohol of 98 degrees	0.88 "
Dried tea exhausted with alcohol of 80 degrees	2.38 "
Dried tea exhausted with alcohol of 60 degrees	2.36 "
Dried tea and magnesia with alcohol of 98 degrees.....	0.76 "
Dried tea and magnesia with alcohol of 80 degrees.....	2.34 "
Dried tea and magnesia with alcohol of 60 degrees.....	2.33 "
Dried caffeine, 1 gm., and slaked lime, 4 gm., made into a paste with water, then dried and exhausted with chloroform	0.997 gm.
The same, with magnesia in place of lime	0.998 "

These figures enable us to establish:

1. That magnesia and lime do not enter into combination with caffeine under the conditions of Commaille's process.

2. That lime and magnesia are useless, since by their employment one obtains no more caffeine than in their absence, and, further, they do not serve the purpose for which they have been recommended, since they do not split up the combination or combinations in which the caffeine naturally exists.

3. That, if the Commaille process furnishes variable results, this not not due to the formation of a compound of caffeine with magnesia, which is insoluble in chloroforms, but rather to the insolubility in that liquid of the combination in which caffeine naturally exists in tea, whence the necessity arises of splitting up this combination with water, magnesia being useless for the purpose.

4. The necessity of operating upon moist tea, since tea treated with water and afterward dried gives similar results with chloroform to dried tea; during desiccation the previously liberated caffeine again enters into combination.

5. The necessity if alcohol be employed for extraction, of having it sufficiently dilute, since nearly anhydrous alcohol gives but a very small yield.—Journal de Pharmacie et de Chimie.

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Gravity 26°, 27°, 28°, 29°; Cold Test, 10° to 15° below zero

No freezing in coldest weather, and entire freedom from hot journals at any time. Perfect uniformity at all seasons of the year. Saves 40 per cent. in wear of brasses, as its exclusive use upon a majority of the leading railroads has demonstrated.

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STANDARD OIL CO.

NAPHTHA DEPARTMENT

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Oil Vitriol — Muriatic Acid
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BI-CHLORIDE OF TIN, TIN SOLUTIONS, OX. MUR. OF ANTIMONY, STANNATE OF SODA, SILICATE OF SODA, SULPHATE OE SODA, ZINC CHLORIDE

Mixed Acid for Nitro-Glycerine a Specialty

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OIL OF VITRIOL, MURIATIC ACID, NITRIC ACID, AQUA FORTIS, AQUA AMMONIA, ALUM, GLASS MAKERS SALT CAKE, GLAUBER'S SALT, SPECIAL ALUM for Paper Makers, MIXED ACID for Nitro Glycerine Makers.

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Mixed Acids for Nitro-Glycerine a Specialty

WORKS AT BRIDGEPORT AND NEW HAVEN, CONN.

CHEMICAL MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

Complete prices current will be found on pages 36 and 37

FRIDAY EVENING, July 3, 1896.

In anticipation of a better understanding among the various domestic alkali makers, considerable sales have been made of alkali for delivery over next fire. Values, however, do not as yet show much improvement. Caustic soda is about the only article on the list that holds its own as regards values, though now and then some outside holder cuts under combination prices. Sal soda is a shade firmer. Salt cake is wanted for the next fire at the recent advance, but makers are not anxious to go forward too largely at current prices. Nitrate soda is a shade firmer, since the recent large arrivals have about been cleared up for consumption. Brimstone is easier for future shipment, but buyers are scarce. Arsenic is firmer, in sympathy with higher prices abroad. Acids of all descriptions are fairly steady under the usual demand incident to this period of the year. In speaking of the Liverpool market under date of June 23, Messrs. J. P. Bunner & Co. say: "There is no improvement in the position of heavy chemicals, the market being still dull and lifeless. Soda ash dull at low rates. We quote spot range for tierces, according to market, about as follows: Leblanc ash, 48 per cent., £4 to £4 5s. per ton; 58 per cent., £4 5s. to £4 10s. per ton, net cash. Ammonia ash, 48 per cent., £3 2s. 6d. to £3 10s. per ton; 58 per cent., £3 7s. 6d. to £3 12s. 6d. per ton, net cash. Bags 5s. per ton less. Soda crystals quietly steady at £2 7s. 6d. per ton, less 5 per cent. for barrels and 7s. less for bags. Caustic soda dragging, fresh business being scarce. Nearest spot range, according to market, is about: 60 per cent., £6 5s. to £6 10s. per ton; 70 per cent., £7 5s. to £7 10s. per ton; 74 per cent., £8 5s. to £8 10s. per ton; 76 per cent., £9 to £9 5s. per ton, net cash. Bleaching powder is very slow at £7 to £7 5s. per ton, net cash, for hardwood packages, as to destination. Chlorate of potash offered at 4½d. per pound, but quite neglected. Bicarb. soda in steady demand at £6 15s. per ton, less 2½ per cent. for the finest quality in cwt. kegs, with usual allowances for larger packages. Sulphate of ammonia quiet at £8 5s. to £8 8s. 9d. per ton, less 2½ per cent. for good gray, 24@25 per cent., in double bags f. o. b. here, as to quality. Nitrate of soda in light request at £8 2s. 6d. to £8 5s. per ton, less 2½ per cent. for double bags f. o. b. here, according to quality."

Heavy Chemicals.

ALKALI.—There are prospects of an early settlement of the differences which have existed among the various domestic makers, some of whom have become "weary" of selling for forward at a loss. A large business has been done in foreign high test for delivery over next fire at full figures, as to style of packing, the sales reaching 5,000 tons or over. There is very little demand for spot or nearby goods, as nearly all of the glassworks are closed for this fire. Values remain steady, with domestic quoted at 65c. in bags f. o. b. sellers' works. Foreign .72½@.77½c., as to style of packing. Jobbing store parcels are held at .75@.85c., as to the size of the order.

BICARB. SODA.—There is a good demand from the South for ordinary brands for delivery over the balance of the year at 1.50c. f. o. b., less the usual discount. Important changes of interest to the trade may be made in the near future. For extra grades, like "Arm and Hammer" and "Cow" brands, a good consumptive demand is reported, all of which is satisfied at 3.50c. f. o. b. Foreign makes are not being pushed very freely for forward delivery, as holders look for better prices this fall. Meanwhile they are selling for spot and nearby delivery at 1.60@1.65c., as to brand and quantity.

CAUSTIC SODA.—This is about the only article on the list that shows any life. Further sales of domestic high test are reported for Western delivery at 2c. In this section the combination prices are well sustained at 2⅛@2 3-16c., as to test, for either domestic or foreign, at which a good trade is reported. Outside holders who have surplus stocks are selling at a shade under regular prices. Powdered 98 per cent. is jobbing fairly well at 4@4⅛c., as to test, for regular makes.

CRYSTAL CARBONATE.—The warm weather has increased the demand for this article. Considerable sales have been made for July and August delivery at 1.65@1.75c., as to quantity and date of arrival.

SALT CAKE.—During the past week many of the large buyers who declined to purchase their supplies at old figures have been in the market and have taken up considerable stock for delivery over next fire at 44c. f. o. b., or 60c. delivered in the gas belt. Foreign is not being pushed very freely, as better prices are expected later in the season. For the present they are quoting for July shipment at 55c. f. o. b. Baltimore.

SAL SODA.—At the moment domestic makers are not anxious sellers of round lots at .65c. for casks, or .87c. for kegs, f. o. b., as they expect higher prices to prevail before the summer is over. There is an improved demand

MARTIN KALBFLEISCH CHEMICAL CO.

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CONCENTRATED SODA CRYSTALS

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ALKALI	49.833
Carbonate of Sodium	85.200
Sodium Chloride	.233
Moisture	14.567
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NATRONA POROUS ALUM-(For Paper Makers and Dyers,60 per cent. stronger than other Alum.

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Carbonate Potash
Sal Soda
Gambier
Cutch

Cocoanut Oil Ceylon.
Cocoanut Oil Cochin.
Citronella

ARSENIC

Blue Vitrio
Orange Mineral
Oxalic Acid
Black Pepper
Opium, Cloves
Jute Butts, Nitrate Soda

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for concentrated, and several round lots of "Arm and Hammer" have been taken at 1.65@1.70c., f. o. b. More inquiry is reported for foreign for July and August shipment. Sales are reported of 100 tons at .65@67½c., as to brand and quantity.

MONOHYDRATE CRYSTALS. — A large business has been done for delivery over the summer months, at prices ranging from 1.45@1.50c., and for "Snowflake" at 1.15@1.20c., as to quantity and place of delivery.

BLEACHING POWDER.—A good jobbing demand is reported for prime hardwoods of English makes of full strength. For 50 tons and over for July shipment, 1⅝c., usual cash terms, is lowest, and for car lots, 1.72½@1.75c., as to brand, is lowest named. Sales of several hundred casks are reported within the range.

Acids.

ACETIC.—Trade has been rather slow during the past week. Only a small retail demand is reported for prompt delivery, at 1.25@1.45c., as to make, quantity and place of delivery.

MURIATIC.—There is a fair demand for prompt, with more inquiry for fall delivery, in anticipation of higher prices later on. Makers, however, are not anxious sellers for forward delivery at current prices, preferring to look after current wants of their regular trade rather than anticipate the future. Values remain steady, at .70@.80c. for 18 deg., and .75@.85c. for 20 deg., as to make and quantity.

TARTARIC.—Only a small retail demand is reported for spot goods, and this is usually supplied by outside holders at 31@31½c. for either crystals or powdered. No change as yet has been made by the manufacturers in their price list.

OXALIC.—Since the month opened there has been more demand for arrivals to come forward during July and August. Sales are reported of 75 casks for arrival at 7¼c., and 12 casks English from store at 7½c.

SULPHURIC.—As intimated in our last a general invitation has been extended to the various acid makers to meet in the near future in this city to talk over the situation and if possible devise such measures as may lead to a better understanding, the result of which may eventually not only establish better prices, but more harmonious action among the various manufacturers. There is not only a good demand for spot goods, but more inquiry for forward delivery. The high price demanded for crude brimstone is a disturbing element in the situation at the moment, especially when this class of acid is wanted for future delivery. Values remain steady at .60@.70c. for 66 degrees in bulk, and .65@.80c. for carboys, as to make, quantity and place of dealing. Bulk, 50 degrees, is in fair request at $6@6.50 per ton f. o. b. factory, as to make and quantity.

Miscellaneous.

ACETATE OF LIME.—The bulk of the business at the moment is mostly for export, as the home demand at this period of the year is light. Values remain unchanged at .80@.85c. for brown, and 1.30@1.35c. for gray, as to quantity and place of delivery.

ALUM.—Since the month opened there has been more demand for deliveries upon existing contracts, in anticipation that prices may be raised later on. Sales are reported of 500 barrels lump at 1.65@1.70c., and 600 barrels ground at 1.75@1.80c., as to make, quantity and place of delivery. Porous is also doing better, with sales of 800 barrels reported at 1½@1¾c., as to make and size of the order.

ARSENIC.—Early in the week several of the Paris green makers sold out their surplus stock of several hundred kegs at 4¾c. With these lots out of the way the market is firmer, in sympathy with the foreign market, and at the close 5@5¼c., as to brand, quantity and holder, was lowest named. Red is also in better request in a jobbing way, at 6@6¼c., as to quantity.

BLUE VITRIOL.—While the demand at the moment is not urgent, either for export or for home consumption, makers show no disposition to make concessions, as stocks in first hands are not excessive. Car lots are quoted at 3⅞c., and smaller quatities at 4c.

BRIMSTONE.—The market is a shade weaker for shipments, which are now quoted at $18.50 for seconds, and $18 per ton for thirds. No business of importance is reported.

COPPERAS.—There has been considerable done during the past few days for July, August and September delivery, at 37½c. for car lots.

CHLORATE OF SODA.—The demand at the moment is of a retail nature, and is satisfied at 11½@12c., as to make and holder.

CHLORATE OF POTASH.—Early in the week 150 kegs sold from dock at 7⅞c. cash. Later prices became firmer and 8c. was freely bid without takers. The market closes steady at 8⅛@8½c., as to brand, quantity and holder.

CREAM TARTAR.—There is no change in the situation since our last report. What few orders came to hand are supplied by outside holders at 25c. for either crystals or powdered.

GLAUBER'S SALT.—As usual, during the summer months, the demand improves, as has been the case during the past week. Prices are fairly well sustained at 75c. for car lots and 85c. for less quantity in this section. At Boston, where 62½@67½c. f. o. b. is named, it is hinted an unusual large business is being done.

NITRATE OF SODA.—The recent arrival of about 50,000 bags has nearly all been closed out from dock for consumption at 1.72½@1.74c., the sales aggregating fully 30,000 bags within the range. At the close the market was stronger at 1.75@1.77½c. for dock lots. Shipments are firmer at 1.80c. for July or August arrivals, while for later arrivals 1.87½c. is asked.

SAL AMMONIAC.—A good jobbing demand is reported for spot and nearby parcels at 8¾c. for lump, 6@6½c. for white and 5¼c. for rough grain.

SALTPETER.—The spot market is weak and dull, owing to the arrival of 200 tons. Only small sales are being made at 3¼@3⅜c., as to the size of the order. Shipments are firmer at 3⅜c. In their circular under date of July 1 Messrs. Ira A. Kip & Co. say:

	1896.	1895.
Imported into the U. S. from Jan. 1 to date	45,209	29,277
Imported into the U. S. past month	5,833	4,103
On the way for the U. S., by mail, May 26	22,566	10,373
On the way for the U. S., by cable, to June 30	12,000	6,250
Stock in importers' and speculators' hands in Boston, June 30	None	None
Stock in importers' and speculators' hands in New York, June 30	12,000	2,600
Visible supply, bags	46,566	19,223
Stock on hand Jan. 1, bags	2,300	2,250
Deliveries since Jan. 1, N. Y. and Boston	35,509	28,927
Deliveries past 30 days	3,633	4,903
Deliveries for consumption for years	...	58,436

The price per steamer shipment has advanced to 3.32c., with very little business reported. The spot stock seems to be held firmly at 3¼c. to 3⅜c. for carload lots.

SUGAR OF LEAD.—Since the month opened there has been a slight improvement in the demand from the mills. Several sales of white are reported at 7c. and broken crystals at 5c. Brown is jobbing at 4¾@5c., as to make and quantity.

Ammoniates, Potashes, Etc.

Since the month opened there has been an improved demand for the various ammoniates caused by the active buying in the West on the part of one of the large Eastern manufacturers of blood and tankage, all of which has tended to strengthen prices in all positions. Sulphate ammonia, foreign, is selling fairly well for arrival at $2.30 for gas. Domestic is steady at $2.35. High-grade Western blood, since the recent large sales, is held firm at $1.40 f. o. b. Chicago. There is not much demand for New York soft, which is quoted at $1.62½@$1.65. Azotine is firmer at $1.65. Bone black, spent, continues scarce and held at 24½@24¾c. per unit. Tankage is firm at $14.50 per ton f. o. b. Chicago. Bone meal is rather slow at $19.25@$24 per ton, as to quality. Fish scrap is without special feature. There is only a small demand for double manner salt, which is satisfied at $1.03@$1.05½, as to port of delivery. Store lots are held at $1.08@$1.10, as to quantity. Sulphate of potash is procurable at $1.99½@$2.08, as to quantity and port of delivery. Messrs. Thos. H. White & Co. of Baltimore, in their circular under date of July 1, say: "Confirming our advices of 15th ult., the market for ammoniates West has since shown considerable activity, a prominent Eastern manufacturer having alone bought last week 2,000 to 3,000 tons of material for July-August shipment, taking blood, $1.32½ to $1.35; concentrated tankage at $1.22½ to $1.75, and high-grade tankage at $11.50 to $14, as to analysis. Most of the Eastern manufacturers are, however, still indifferent about supplies, either present or future, and the Southern inquiry is still small. The fish catch in the Chesapeake Bay is good, and the product is offered freely at $17 f. o. b. factory. As yet there is no reliable information as to the prospective catch at the North. Sulphate of ammonia is offered, both domestic and foreign, at $2.20 to $2.30, as to quality, delivered Eastern ports over next three months. We quote: Ground blood, Chicago, $1.35 to $1.37 f. o. b. August-September; ground blood, Chicago, $1.50 f. o. b. October-November; concentrated tankage, Chicago, $1.25 to $1.30 f. o. b.; 8

(Continued on page 48.)

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Ammonia, aqua	Manganese borate	— nitrate
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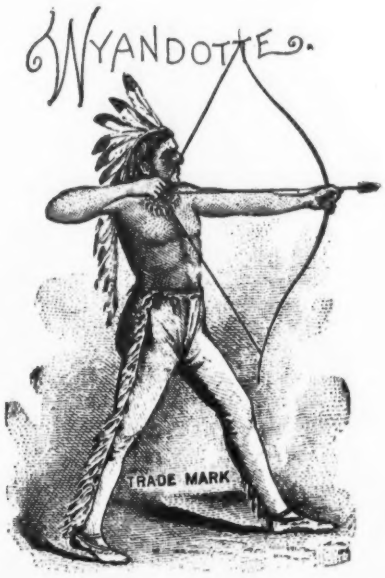

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DYE MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures. The prices current will be found on page 37.*

FRIDAY EVENING, July 3, 1896

The month of June closed on Tuesday, and the Fourth of July following closely served to intensify the dull situation which has for a long time prevailed in dyes, dyestuffs and kindred merchandise, and accordingly only a very moderate volume of business was disposed of since our last. Another factor that has tended to depress trade was the closing down this week of several of the important textile mills and the probable early suspension of work by others for an indefinite period. This action, it is said, was made necessary by the stagnation in the cotton and woolen goods trades and, of course, those who supply the manufacturers of fabrics with dyeing materials are feeling quite severely the effect of the shut down. In none of the articles has there been more than routine activity, and in most of them the scarcity even of small orders was rather conspicuous. There has been no movement in any direction calculated to affect the general course of prices. Holders as a rule view the present slow condition of the market as only a temporary matter, and are not disposed to urge goods upon unwilling buyers. The staples continue practically as outlined in our last, and no comment on them is required here. Collections are fairly free and few complaints are heard on this point.

ALBUMEN.—Consumers are without important requirements at the moment. Many of the print works are already closed down for the hot season or preparing to do so and have ceased buying, which has materially curtailed the volume of current business. Nevertheless there is no disposition to lower prices, which are steady at 28@33c. for blood and 50@60c. for egg, according to quality. On the other side, the feeling remains strong and predictions of higher values in the near future are freely made, but this does not stimulate trading in the least or excite a desire to speculate in albumen.

ALIZARINE.—An ordinary jobbing movement is reported, but the market shows a good tone and sellers are hopeful of an early turn for the better. Meanwhile the range of quotations is 16@20c.

ANILINE OIL.—There are no interesting new features to chronicle regarding aniline oil. Very little is now coming forward owing to the prevailing quiet demand, and supplies on the spot are therefore only moderate, which assists holders in maintaining a steady market. The spot price is 15@15½c., according to quantity, and nearby lots are held at about the same figures. August to October deliveries, however, may be secured at about a half cent under that range.

ANILINE SALT.—The imports this week amount to 99 casks, most of which was engaged before shipment, and has gone into the hands of the consuming trade. Small lots are occasionally in request on the spot, but interest in goods to arrive is dormant. Quotations are unchanged at 14½@15c.

BICHROMATE OF POTASH.—No further new features are reported in this article. Sellers are quoting firmly at 10@10¼c., as to size of order, and spot supplies remain light. The demand has not improved and only small jobbing parcels are finding an outlet.

COCHINEAL.—There have been no arrivals to speak of for some time, but owing to a stagnant demand the small quantity held here suffices for all purposes. Prices are wholly unchanged and quotable at 28@32c. for silvers, 31@33c. for black and 32@34c. for gray black. The stock in London, June 19, was 1,723 bags, against 1,915 bags at the same time in 1895.

CUTCH.—This market is quiet and without fresh features of special interest. Consumers are buying simply to cover their current wants and prices remain unchanged, but fairly strong, as quoted last week, viz: Bales, 4½@5c.; boxes, 5½@6c., and slabs, 8½@9c., as to grade. The shipments from Rangoon from January 1 to June 13 to all parts were 6,220 tons, against 5,240 tons in 1895, and 6,680 tons in 1894.

DYEWOODS.—There were very few buyers of logwood in the market this week, and outside of two transactions of some note the sales were purely of a routine character. The cargo of Port de Paix wood on the steamer Schleswig, which arrived since our last, and comprising 212 tons, was sold at $26, but at the close the feeling in that grade was easier and offers were made of $25, without finding buyers. Of Cape wood a lot of 300 tons on the dock was taken at $22. Gonaives and St. Marc are available at $25, while the low grades are now quoted down to $18 per ton. The receipts of fustic this week amounted to 440,000 lbs., all from Tampico. For this material there is momentarily no inquiry and prices are unaltered.

GAMBIER.—No new features can be reported in connection with gambier. The demand is exceedingly sluggish and prices show no change worthy of note. Store parcels are held at 3.70@3.75c., and forward deliveries are nominally quotable at 3.65@3.80c., as to grade and quantity. A London report of the 19th instant says: "Gambier is steady with only a limited demand. On the spot 200 barrels have been sold at 17s.; and for arrival 100 tons at 16s. 9d. down to 16s. 7½d., June-July and July-August shipment. Some business reported as low as 15s. 9d., c. i. f., delivered. Cubes dull of sale, and much neglected; 27s. to 27s. 6d. is outside value for good free."

INDIGO.—The better qualities are passing into consuming channels slowly, but inferior grades are much neglected. Prices remain steady. Reports regarding the growing crop in India are conflicting, though there seems to be little doubt that the plants are needing rain badly.

PRUSSIATE OF POTASH.—For future delivery there was considerable inquiry, owing to the fact that many buyers are inclined to believe that present low prices will soon disappear. It does not seem, however, that any transactions of that nature were completed, and the only business reported was the usual sales of small lots to satisfy current requirements. We quote the range unchanged at 16@17c.

STARCH.—While prime corn starch is firmly held at 2¼@3c., as to quantity, the lower grades are cheaper and may be purchased down to 2c. Potato remains steady at 2½@2¾c., and wheat is firm at 4¾@5¼c. All kinds of starch are comparatively dull.

SUMAC.—Sicily sumac is very quiet and prices indicate no change, $46@47 per ton being the range. Virginia sumac is quotable at $37@40.

Fuller's Earth in the Isle of Man.

A valuable bed of fuller's earth has been laid open in Glen Wyllin. Some time ago a number of women were employed to clear away debris and other obstructions, besides barricading the river which meanders through this part of the glen, and, indeed, was beginning to overrun and devastate this corner, and would soon have trespassed on this valuable bed. Boring operations have been performed to test the extent of the stratum, with the result that a seam, 150 feet long and 25 feet deep, of rich deposit, presents itself. This seam practically extends from this quarter to the brows on the shore. Perhaps, as mining operations proceed, other mineral deposits will be exposed, as several attempts have been made in the past to encourage mining, the soil being strongly impregnated with iron, lead, etc. The whole of the undertaking is under the direct supervision of Mr. J. R. Cowell, J. P., H. K., of Ramsey. It is stated that as far back as forty years the peculiar nature of this earth was observed, and in some instances its aid was requisitioned on account of its emollient properties in cases of temporary inflammation, soreness, or pain, and it is believed that some years ago a few cartloads were sent to Peel for shipment.—Isle of Man Times.

CHEMICAL MARKET.

(Continued from page 46.)

and 20 crushed tankage, Chicago, $11 to $11.50; 9 and 20 crushed tankage, $13 to $14."

MURIATE OF POTASH.—No further business is reported for the South since our last. What little trade there is in progress is of a retail nature. Prices have not changed, the quotations being: New York and Boston, 1.78c.; Philadelphia, Baltimore and Norfolk, 1.79½c.; Charleston, Savannah, Wilmington and New Orleans, 1.81½c. for 80@85 per cent., basis of 80 per cent., in lots of 50 tons and upward.

KAINIT.—Several small sales are reported for Southern direct shipment. Otherwise trade has been slow. Prices range as follows: New York, Boston, Philadelphia and Baltimore, $8.80 per ton; Norfolk, $9.15, and New Orleans, $9.30 per ton, for 400 tons and upward.

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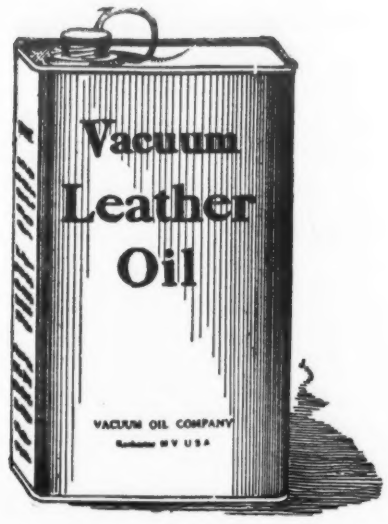

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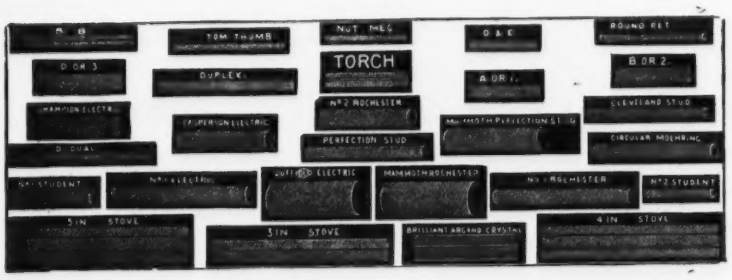

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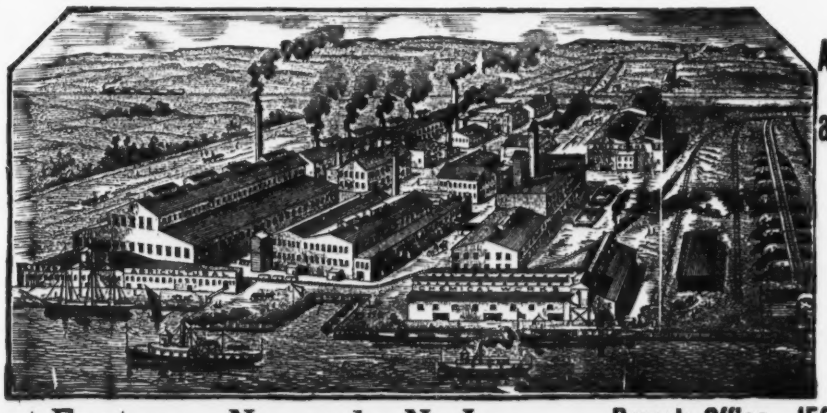

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